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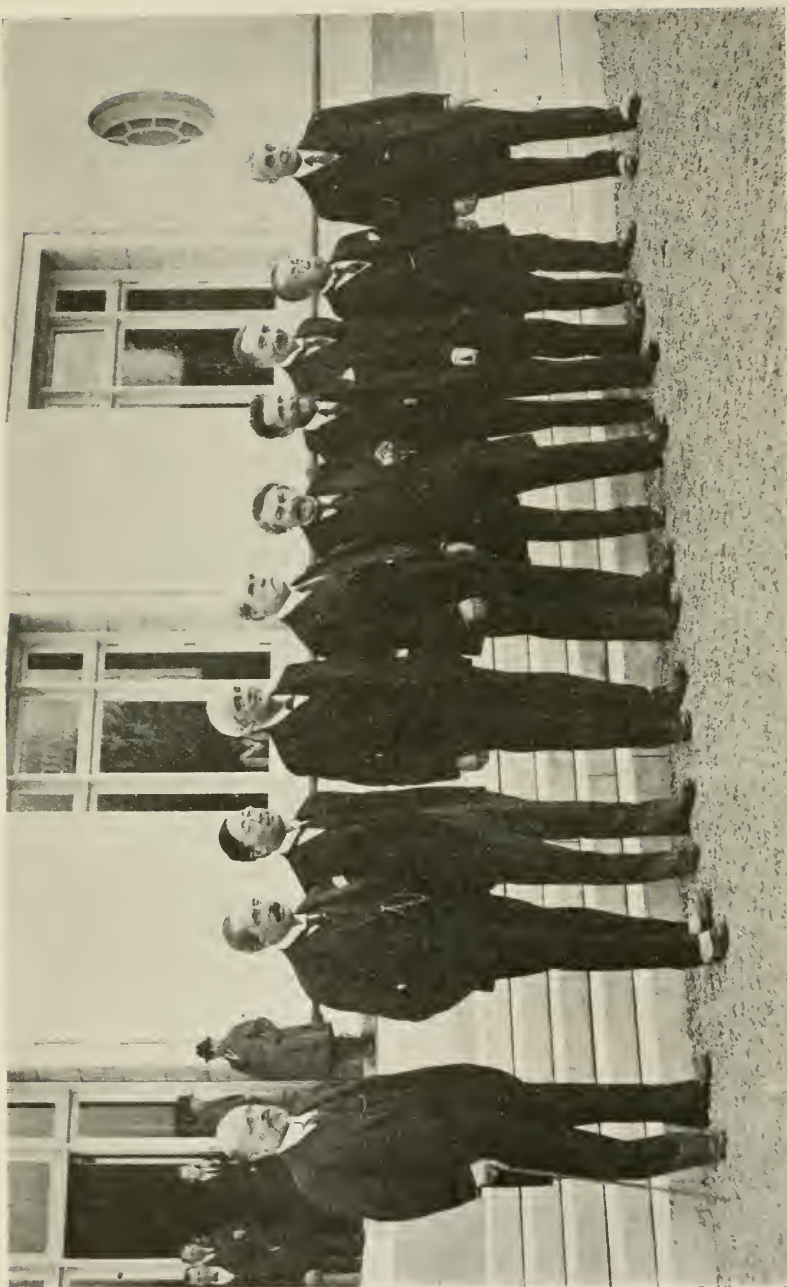
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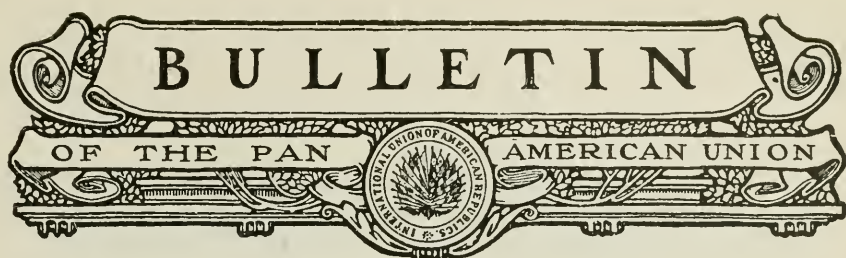




Photograph by George F. Hirschman.

PRINCIPALS AT THE CONFERENCE ON LIMITATION OF ARMAMENT.

Left to right: John W. Garrett, Secretary General of the Conference; Jonkheer H. A. Van Karnebeek of the Netherlands; Mr. Sao-Ke Alfred Sze of China; Mr. Arthur James Balfour of Great Britain; Charles Evans Hughes, Secretary of State of the United States; M. Ariste Briand of France; Senator H. E. Carlo Selanzer of Italy; Baron de Caster of Belgium; Prince Iyasato Tokugawa of Japan; and Viscount d'Alte of Portugal.



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No. 1

PERU'S NEW EDUCATION LAW

By ARTURO TORRES.

Instructor of Spanish, University of New York.

EVER since the year 1910 the Peruvian Government has been considering radical changes in the law of public instruction enacted in 1901. A special committee was created for the purpose, and a new law drafted which, with such amendments as were deemed necessary by the Executive, was promulgated February 5, 1921.

The new organic education law not only is very comprehensive in its scope but contains many important features more or less new to Latin American codes of public instruction and worthy of study.

The divisions of the law are as follows:

Section I. Organization and administration.

Section II. Primary education and normal schools.

Section III. Secondary education.

Section IV. Higher or university education.

ORGANIZATION AND ADMINISTRATION.

Although all branches of education are under the jurisdiction of the Department of Public Instruction, the provisions relative to organization are intended to give administrative officials ample independence of action, to insure that positions requiring technical and administrative ability are filled by thoroughly competent persons, thus placing education above the sphere of political influence. Means

are also provided whereby public interest and initiative may be utilized. In drafting the new law an attempt has been made to have it conform as far as possible—given the social, political, and economic conditions in Peru—to the most approved principles of school administration.

The regulations and budgets for primary and secondary education proposed by the Director General of Education will be promulgated by the President of the Republic and the Minister or Secretary of Education, who will also approve appointments for the higher positions under the director general's office, regional superintendents, and principals of secondary schools.

A National Council of Education, composed of seven salaried members appointed by the Executive for a period of seven years, exercises advisory functions, its duty being to render opinions on the regulations and curricula in force or on matters relating to primary and secondary instruction; to conduct investigations and make such recommendations to the Government regarding amendments to laws or regulations as the council may deem advisable.

The Director General of Education, appointed by the Executive for a four-year period, with the possibility of reappointment, is invested with all the authority and responsibility required for the successful conduct of his office. His duties as technical and administrative head of primary and secondary instruction correspond to those incumbent upon a commissioner of education in those States of the United States having a centralized school system. He is a non-voting member of the National Board of Education, and the head of the General Bureau of Education (*"Dirección General de Educación"*), which has been completely organized as the directing center of a modern and progressive educational system. The bureau is made up of the following officials and divisions:

1. The director of examinations and curricula, who as chief of the division presides over the national board of examiners appointed by the department on his recommendation.
2. The director of school libraries and museums, and chief of the division of books and supplies.
3. The director of school building construction, who is chief of the division.
4. The chief of the division of property, income, and accounts.
5. The chief of the division of personnel and statistics.
6. The chief of the division of files.
7. The chief of the office division and secretary of the general bureau.

An innovation worthy of mention is the creation of a regional directorship of primary and secondary education in each of the administrative divisions of the Republic—northern, central, and southern. These directors or superintendents, who are appointed by



Photograph by Underwood & Underwood.

DR. HARRY ERWIN BARD.

Chief of the American educational mission called to Peru to aid in putting the new education law into execution.

the executive, have local jurisdiction over the schools and teaching staff, appoint and remove employees, including school physicians, authorize the opening of new schools, convoke and direct the teachers' institutes, and act as representative of the General Director of Education. It is hoped to attain through them a degree of decentralization of the technical and administrative service without jeopardizing the unity of national education.

As links between the administrative heads and the different communities the regional superintendents are authorized to appoint in each town or district one or more school visitors or commissions of primary and secondary education, who shall serve without pay. There will also be in each school unit an educational finance board charged with the administration of school property and income, obtaining bids and seeing that contracts are properly carried out.

PRIMARY EDUCATION.

The provisions of the law as regards this branch of instruction have the following objects: (1) To impart at least a certain minimum of information to the largest possible number of children and to illiterate adults; (2) in addition to this, to prepare children to enter the secondary schools and, where this is not possible, to give them a practical training that will enable them at once to earn their living; (3) to adapt the schools to the environment of the pupils; and (4) to enlist the cooperation of private individuals in the educational work of the school.

Primary education is divided into general or common and special or vocational sections. Common primary instruction comprises two divisions: The three-year elementary or first-grade school and the two-year second grade school.

Elementary education is compulsory for boys and girls between the ages of 7 and 14; those over 14 years will be taught in schools for adults. All pupils in the primary schools receive free instruction, books, and supplies, and poor children will whenever possible be provided with food and clothing. This feature, which is not very general outside of the United States, and which makes education absolutely free, will react favorably on the public school.

There will be elementary schools in urban, industrial, or rural centers having a school population of over 30 children. Second-grade primary schools will be maintained wherever there is a regular attendance of at least 30 children. The proprietors of farms, mining and manufacturing establishments are obliged to provide free elementary instruction for the children between 6 and 14 in the families of their employees, and for that purpose shall establish and equip schools at their own expense and pay the salaries of the teachers. These schools will be visited by Government inspectors.

In the first and second grade schools attention is devoted primarily to religious, moral, civic, economic, and physical instruction, practical hygiene, the Spanish language, manual training, and domestic science for girls. In the second grade primary sections connected with the secondary schools, English or French will be included in the curriculum beginning with the fourth year. The course of study will be adapted to the differing conditions prevailing in the city and the country and in various regions. Schools for natives will have special curricula and text-books and, in districts where the Indian dialects prevail, one of the principal aims will be to teach the pupils Spanish. All rural schools, and as far as possible the urban schools, will have gardens for instruction in agriculture; farm schools for the natives will also be organized.

The establishment of kindergartens for children from 3 to 6 is authorized.

The aim of vocational primary education is to impart a certain minimum of information and training of immediate utility for the elementary school teacher, for workers in agricultural occupations, industry, commerce, and domestic life. It will be given in separate institutions called elementary normal schools, agricultural schools, etc., and in special sections of the second-grade primary schools. In order to be admitted to these institutions the pupil must have passed through the elementary primary school; the course is two years in length and instruction is free. Local boards will be created to promote the founding of this class of institutions.

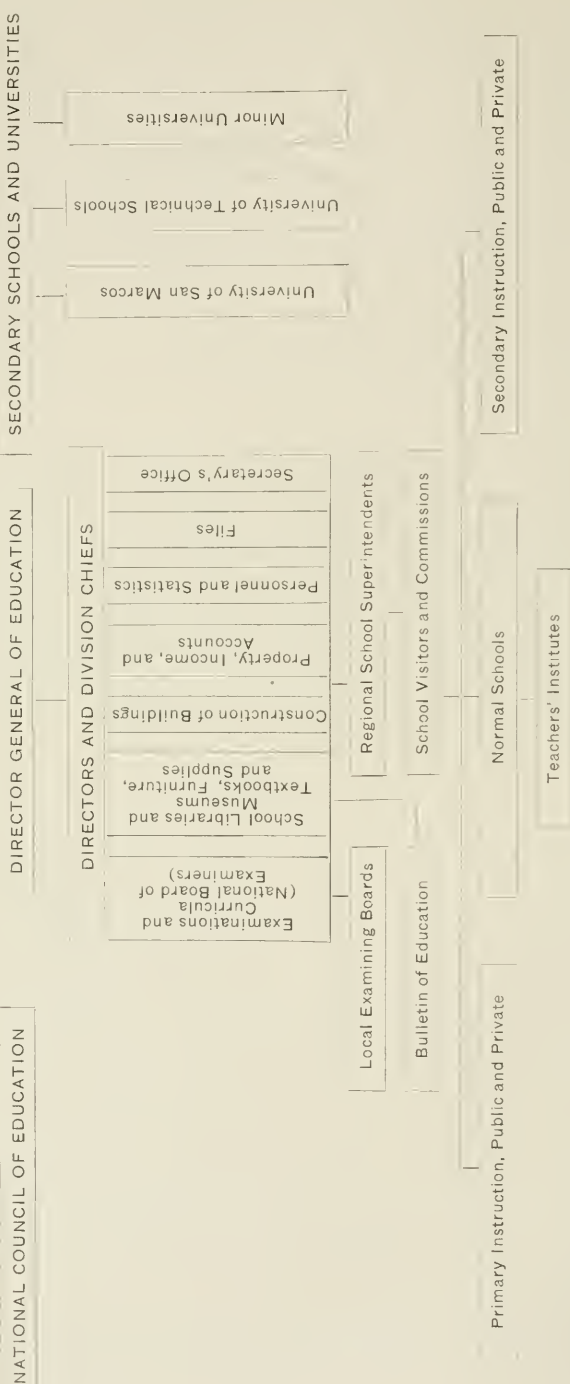
SECONDARY EDUCATION.

Secondary education, like primary, is divided into common or general and special or vocational sections. Common secondary education comprises two divisions of three and two years, respectively. The first will include those theoretical and practical studies that are considered most necessary. The curriculum is as follows: Religious, moral, physical, civic, and economic instruction, Spanish, mathematics, physical and natural sciences, geography, universal and Peruvian history, psychology, English or French, penmanship, drawing and modeling, manual training, and singing. In the girls' schools the time devoted to civics, mathematics, and physical and natural sciences is reduced to make room for hygiene and elementary home medicine, elementary pedagogy, cutting and fitting, cooking and domestic science. In order to enter a secondary school, pupils must be 12 years of age and graduates of the first and second grade common primary schools.

Vocational secondary education includes agriculture, stock-raising, and rural industries; arts and trades for both sexes; commerce; and normal training. It will be imparted in separate institutions to be

THE PRESIDENT OF THE REPUBLIC

THE DEPARTMENT OF PUBLIC INSTRUCTION



ORGANIZATION OF THE EDUCATIONAL SYSTEM OF PERU ACCORDING TO THE NEW LAW OF FEBRUARY 5, 1921.

founded in the principal centers of population, under the name of agricultural, industrial, commercial, normal, or arts and trades schools, technical institutes, etc., and in special sections of the schools for common secondary education. These vocational subjects may be taken by students who have had all or part of the common secondary course, as well as by those who desire to combine in one course the two branches of secondary instruction.

Secondary schools shall be provided with dormitories for the students.

The intent of the law is to bring about real stability in the teaching force of the primary and secondary schools; hence the necessity that such teachers be thoroughly competent in their own line. Thus it is provided that anyone desiring to be an instructor in the primary schools must possess a teacher's diploma conferred by a higher or elementary normal school. Those not having such diplomas must present evidence of possessing certain qualifications and take an examination given by the National Board of Examiners. For the training of teachers, normal schools will be established, with an entrance requirement of at least the first three years of secondary education; the course will be three years in length. There will also be elementary normal schools. Instruction books and supplies are furnished free. In order to encourage teachers to improve their professional preparation, Teachers' Institutes will be held annually in each school district.

Secondary school teachers, as evidence of their fitness, must possess the professor's diploma provided for in the law, conferred by the Higher School of Pedagogic Science upon completion of its professional courses.

The salaries received by teachers are fixed according to the category of the school in which they serve; beginning with a stated minimum they are raised a certain per cent every three years. The increase in salary signifies a promotion, depending not only on the teacher's length of service, but on merit as well. Salaries are based on the assumption that teachers will give all their time to their educational work, hence a minimum has been fixed which is considered a fair remuneration and the recipient is expected to devote himself wholly to teaching.

On reaching a certain age or being retired for disability, teachers and professors will have the right to a pension, and to this end they are obliged to pay into the pension fund the equivalent of four per cent of their monthly salary.

An interesting section of the law is that relative to the funds for the maintenance and extension of primary and secondary education. The former in particular receives a special income derived from 10 per cent of federal revenues and a certain proportion of municipal

and provincial receipts. A special fund for school buildings is also created.

HIGHER OR UNIVERSITY EDUCATION.

Higher or university education is provided for at the University of San Marcos in Lima, the University of Technical Schools created by the present law, and the minor Universities of Arequipa, Cuzco, and Trujillo.

The universities enjoy full technical and administrative autonomy. Their management is in the hands of the respective University councils. The administrative officials and professors are nominated and elected by the professors themselves, with the exception of the president of the new University of Technical Schools, who is appointed or contracted for by the Government. The universities have their own revenues with which to meet their expenses.

For admission to higher institutions it is necessary to be 18 years old, possess a secondary school certificate and take an entrance examination. To enter the faculties of medicine and law, two years of preparatory studies in the faculty of philosophy and letters are required. Women are admitted as students in all the faculties and may be candidates for the same degrees as men.

The University of San Marcos is made up of the following faculties: Theology, law, medicine, mathematical, physical and natural sciences, political and economic sciences, philosophy, history and letters, and the institute of dentistry and pharmacy.

The University of Technical Schools is composed of advanced schools of engineering, agriculture, commerce, industrial arts, and a school of pedagogic science to train professors and directors of secondary schools.

The minor universities have only three faculties: Philosophy, history and letters; physical and natural sciences; law, and political and economic sciences. With the approval of the Government, technical courses may be added, such as agriculture, pedagogy, industrial arts or commerce, administered directly by the university authorities as sections or institutes.

The law provides for the founding of a University Student Club, with the necessary land, buildings and equipment. Its aim is to promote all those social and educational activities that enrich the life of the student and are so important for his general development. The students, professors, and administrative officers of the University of San Marcos and the Technical Schools belong to this club.

The intent of the law seems to have been to construct a real "educational ladder" reaching from the kindergarten to the university, and offering every opportunity for the development of the ability latent in the children and the youth of Peru.

THE QUEBRACHO FORESTS OF SOUTH AMERICA¹

PERSONAL NOTES AND OBSERVATIONS IN ARGENTINA
AND PARAGUAY.

By GEORGE A. KERR.

IT IS a somewhat remarkable caprice by which nature has ordained that the present principal sources of the two most important vegetable tanning materials—quebracho and chestnut—should be situated in the two continents of the Western Hemisphere, and at the same time that they should be analogous in so many respects that anyone with a knowledge of the habitat of the one may glean a very good idea of the habitat of the other. For instance in range of latitude and width of forested area, distribution, distance from the sea coast, and in many other points they have much in common.

In Argentina and Paraguay, there are three varieties of quebracho tree, so-called, namely: in the order of their importance, the quebracho colorado or red quebracho, quebracho blanco or white quebracho, and the quebracho macho, which may mean either the male or strong quebracho, most probably the latter, but the author has never met anyone who could enlighten him as to this.

It is the first of these varieties with which we are concerned here, as it not only vastly outranks the others in quantity, but also in general importance, as being the raw material of the tanning extract of commerce, and of immense value and utility as timber. The quebracho blanco has value only as timber, while the quebracho macho is not sufficiently plentiful to be of much importance in any respect, although it ranks next to quebracho colorado of the more northern latitudes in tannin content. The only considerable quantities of this class of quebracho coming to the writer's notice is in northern Paraguay, and for the most part east of the river Paraguay. In Argentina, if existent at all—in the course of travel through hundreds of leagues of forested country none was seen by the author—it is not generally used for the production of tanning extract, but is sometimes used in conjunction with quebracho colorado in some of the extract plants of upper Paraguay; this, however, is only possible

¹ Reprinted from the Journal of the American Leather Chemists Association.

when the price of extract is high enough to offset the difference in yield, which is 15 per cent to 20 per cent lower.

Quebracho colorado is found in quantity from latitude 20° south to latitude 31° south, the length of the belt being approximately eleven degrees or 760 miles and beginning at the northern limits of Paraguay it extends south to about one-third through the Argentine Province of Sante Fe, the distance being equivalent to that from northern Pennsylvania to the southern limit of the North American chestnut belt in Alabama. This region embraces the Chaco Paraguayo, the Argentine Province of Formosa lying between the rivers Pilcomayo and Bermejo, the territory of the Argentine Chaco, the Province of Santa Fe and that of Santiago del Estero. There is also some quebracho in the southeastern portion of the province of Tucuman, but the total forested area of this province being only some 216 square leagues, *i. e.*, about 2,000 square miles, the quantity is of little consequence, and being rather remote, and the quality inferior, it can not be worked profitably for the present.

The width of the quebracho belt varies a great deal, but it is safe to say that nowhere does it exceed 3° to 4° of longitude; its eastern limits are well defined by the course of the Parana and Paraguay Rivers, from which it extends westward anywhere from 40 to 325 kilometers—25 to 200 miles—the variation being due to causes which will be referred to later. From this it will be seen this region is far from being an unbroken continuous forest such as the Appalachian system carried originally; it consists instead of patches or islands, from a few acres to several square miles in extent, or in long strips or belts of all dimensions, the intervening spaces being great clear levels of grass-covered land or swamp.

So much do the stands and other characteristics of this timber vary in the various sections, that a description of each Province or territory will do much to give a comprehensive and comparative idea of the whole. Beginning with the Province of Sante Fe, as having been the scene of the earliest exploitation of quebracho as a tanning material, there was—starting some 30 kilometers from the river, and extending from 150 to 200 kilometers inland at the widest part, and 350 from north to south—an area originally of about 2,100 square leagues,² or 20,000 square miles, bearing quebracho, which at a conservative estimate of 18,000 tons per league gives a total original tonnage of about 37,800,000 tons, the yield per square league varying all the way from 5,000 to 60,000 tons. However, both of these

² The Argentine league is 5 kilometers; a square league=25 square kilometers or 2,500 hectares. One hectare=2.47 acres. One square league=6,175 acres or 9.61 square miles. A kilometer is 0.62 mile.

The Paraguayan league is 4.33 kilometers, having been originally 5,000 varas or Spanish yards. A square league Paraguayan is 1,875 hectares or 4,631 acres.

The Brazilian league is 9.68 kilometers or 6 miles.

The Argentine league is used as the standard throughout this article.



A QUEBRACHO TREE.

The quebracho tree usually stands by itself, easily discernible at a distance, both by the character of its bark and the peculiar formation of its branches.



THE BARK OF THE QUEBRACHO TREE.

If the quebracho is to be used for its tanning extract, the workmen always try the tree, before felling it, by testing the thickness of the sapwood; if the latter is too thick the tree is spared, as it is the trunk proper that yields most of the tannin.

figures are exceptional, and a variation of 10,000 to 25,000 tons will cover the general average. Of the whole area, between 50 and 60 per cent is really timbered; therefore the actual stand is more dense than the yield per league indicates. To present a clearer picture of the foregoing to those accustomed to North American methods of estimating timber, I may put it this way: The average tonnage per acre of total area is 2.9 tons, or 5.8 tons per acre of actual timber, and as the average log of this section, including limbs large enough to work, weighs 325 kilos—715 pounds—the stand is equivalent to nearly 18 such trees per acre, containing roughly 2,250 board feet,



A FONDA OR TAVERN IN THE CHACO.

Frontier inns of this character are favorite meeting places of timbermen, and from them gangs of workmen are sent into the quebracho forest for their season's labor.

log measure, a comparatively light yield until we take into consideration that these forests resemble our hardwood ones in that they carry usually quite a variety of other woods, such as lapacho, curupay, quebracho blanco, goyacan, yacaranda, algarroba, palo blanco, etc., which bring the total up to quite a respectable figure. As a matter of fact it is not unusual to see cut-over tracts, which, but for the absence of quebracho, have every appearance of being virgin timber, although this is not so true of the forests of Santa Fe as of some other sections, for it is beyond question that this was the most heavily timbered section of the quebracho country.

The total tonnage figure given above refers to the original or virgin stand, and to arrive at the probable quebracho timber resources as they exist to-day, we must take into account, that in this province quebracho has been cut in ever-increasing quantity for purposes other than tannin, for over 100 years, and that for about 25 years the great bulk of all the tanning extract was made from wood originating in Santa Fe; so to arrive at a reasonable conclusion as to the quantity still standing, it is necessary to make a very considerable reduction. No data exists on which to base an estimate of the cut from the beginning of the nineteenth century to the present time, but it is certain that until railway construction began in Argentina the quantity was negligible. Since then, however, it has been quite important, growing continuously more so with the advent and extension of the tanning extract industry in Argentina and Europe during the past 25 years. Illustrating this, 215,000 metric tons of wood were utilized in 1901 for the manufacture of extract, in 1913 the quantity had increased to almost 750,000 tons. From such data as is available and personal investigation on the ground, the conclusion is reached that at least 15,000,000 tons have been cut for all purposes, which deducted from the estimate of the original total of 37,800,000 tons leaves still available 22,000,000 tons.

CHACO ARGENTINA.

The territory of the Argentine Chaco, lying immediately north of the Provinces of Santa Fe and Santiago del Estero is rapidly becoming the most important source of quebracho colorado. With a total area of upwards of 3,600 square leagues, the forested areas comprise some 2,500 square leagues or 24,000 square miles, *i. e.*, two-thirds of the entire area, and 20 per cent more than Santa Fe originally carried. The stand of timber, however, is not as a whole equal to that of the Province just mentioned, nor is there a like proportion of timber land or *monte* to open *campo*. In this section the timber originally grew to within ten kilometers—six miles—of the Parana River, which is considerably closer than it was found in most places; at present the eastern limit is a few kilometers farther west. From there it extends in a northwesterly direction for 300 kilometers—185 miles—or more. Beyond 250 kilometers the stand becomes very light, and the quality as to tannin content slightly inferior. Up to 200 kilometers from the river the stand is heavy and the quality, though not equal to the best Santa Fe wood, is very good.

The timber belt, it will be noted is wider here than at any other point in the entire quebracho region, being somewhat analogous in this respect to the chestnut belt of the Appalachians, which

widens out at the latitude of Kentucky and Tennessee, extending well west into these States, but narrows to both north and south.

The area extends entirely across the territory from its boundary with Santa Fe to the Bermejo River, separating it from Formosa on the north, the distance being about 50 leagues or 155 miles; thus the forest of the Chaco for the most part lies within a block 50 leagues square. Of this area not over 45 per cent is in timber, which circumstance, by reducing the yield per league, fails to convey a correct idea of the density of growth. It is, however, true that even at a very considerable distance from the river, there are leagues carrying



BIG QUEBRACHO LOGS GATHERED IN THE FOREST.

It should be noticed that these logs have had the bark removed, and are serviceable either for tanning extract or for sleepers. If logs are felled close to a factory, every particle of the wood may be utilized for the extract.

as much as from 40,000 to 50,000 tons, on the other hand there are many leagues which will not exceed over 7,500, and a fair general average for the 2,500 square leagues is 15,000 tons per league, giving a total of 37,500,000 tons. Up to the present the cut has been comparatively insignificant, the surface having scarcely been scratched so to speak, and there are still millions of tons within 50 kilometers of the river.

About one-third of the chaco forest is still government or fiscal land, and the other two-thirds privately owned. Being fully cognizant of their value, these fiscal lands are being held to be doled out in small lots to the highest bidder, as financial necessity demands.

SANTIAGO DEL ESTERO.

Adjoining and to the west of Sante Fe and the chacò lies the province of Santiago del Estero, the timbered region of which, so far as quebracho is concerned, may be said to carry the westward fringes of the forests of Sante Fe and the chaco. As a factor in the total resources, it cuts little or no figure and while the author has little personal knowledge of this section, the information gathered from those who are conducting logging operations there, leads to the conclusion that the timber is both sparse and inferior, and will not exceed 2,000,000 or 3,000,000 tons at most.

TERRITORY OF FORMOSA.

Next to come under consideration is the territory of Formosa. Situated north of the Argentine chaco, and divided therefrom by the River Bermejo, it extends to the Pilcomayo, which forms the boundary between it and the Chaco Paraguayo, a distance of 35 leagues or 110 miles. The timbered area of this territory has not been very thoroughly explored, and though said to be rich in timber, it is a reasonable assumption that the forest extends no farther west than it does in the chaco in the south, and in the Paraguayan chaco on the north. Both of these localities are very well known—especially the former—along the Formosa boundary lines, and the knowledge that the stand of timber becomes lighter and the jungle or underwood and parasitic growths more dense as the tropics are approached makes it evident that the quebracho-bearing area does not exceed 1,150 square leagues or 11,000 square miles.

Basing an estimate upon the average of the stands on the northern edge of the Argentine chaco and on the southern edge of the Paraguayan, 8,000 tons per square league or a total for the territory of 9,000,000 tons is on the liberal side. Enough is known of this region to warrant the statement that very great areas are not only subject to inundation but consist of permanent swamps or esteros, which preclude the presence of timber of any description.

On this account it will be a long time before the forests of Formosa become important to any extent from a commercial standpoint. The territory may be said to be virgin, as the cut up to the present is immaterial.

QUEBRACHO IN PARAGUAY.

The quebracho timber belt of this country lies almost entirely in the Chaco, which is all that part of Paraguay west of the river of that name. Those familiar with the regions already referred to and also the one now under consideration have doubtless recognized that once the Pilcomayo River is crossed, going north, a great difference in the character of the forest is encountered. Ranging in a broken

and desultory way over 5° of latitude—an approximate distance of 560 kilometers, or 350 miles—the width varies from a few kilometers to 80 or 90, but rarely, if ever, exceeds 100 kilometers, or 62 miles. Indeed, it is only in very exceptional instances that the width is so great; therefore, notwithstanding its great length, the quebracho-producing area does not exceed 1,500 square leagues, or 14,400 square miles.

Nowhere in the whole range does the average stand approximate that of the country to the south, and not over 30 per cent of the area



A SAWMILL IN THE FOREST.

Mills are frequently permanent, substantial plants, to which the rough timber is hauled. Occasionally, however, it is advisable to carry small mills close to the forest for more rapid handling of the raw material.

is timbered. As a consequence the yield per league falls to about 3,000 tons or less. A solidly timbered league will not yield at the best over 8,000 tons, and selected areas of the best timber do not average over 4,000 tons. Quebracho has been cut for building and other purposes in Paraguay for several hundred years. It is therefore impossible to estimate closely what the original stand amounted to. However, the probabilities are that it never exceeded 4,500,000 tons. A million tons will cover the cut up to the present; but ignoring the past it is a certainty that the present resources do not exceed 3,500,000 tons, which in comparison with like areas in the south is insignificant.

TOTAL RESOURCES OF ARGENTINA AND PARAGUAY.

Summed up, the total available tonnage of quebracho colorado now standing in these countries is comprised as follows:

Argentina:	Metric tons.
Province of Santa Fe.....	22, 800, 000
Territory of the Chaco.....	37, 500, 000
Province of Santiago del Estero.....	2, 000, 000
Territory of Formosa.....	9, 000, 000
Total for Argentina.....	71, 300, 000
Paraguay.....	3, 500, 000
Grand total.....	74, 800, 000

VALUE OF TIMBERLANDS.

The value of the timberlands under discussion is more or less subject to fluctuation; therefore, such as are now cited can only be taken as true of the past and present. The tendency in Argentina is constantly upward, and there is but little doubt that the next decade or two will witness a great appreciation.

In placing a value upon any given tract much depends upon whether it is estimated from a timber, cattle grazing, agricultural, or a combination of all three viewpoints. At present, excepting in the vicinity of centers of population and transportation, there is no great range of asking prices for tracts involving one or more leagues. In Santa Fe there are blocks which would be cheap at \$100,000 gold per league on account of the timber alone; again, where the land is about evenly divided for timber and cattle or agriculture one-half the above price would be sufficiently high. In the case of land which is low or swampy the value is nominal, and much of it would be dear at any price. As a matter of fact, the proprietors of desirable land have not within recent years shown much disposition to sell, under which circumstances real values are difficult to ascertain.

In the Chaco, values have not attained the high levels of the neighboring province, and good timberlands carrying upward of 20,000 tons of quebracho can be purchased at from \$25,000 to \$35,000 gold per league. Within the last 10 years lands in this section have increased in value tremendously; a block of some 90 square leagues, distant 30 to 60 miles from the river and with a line of national railway crossing its base, sold at Government auction 10 or 12 years ago for about \$7,500 gold per league; to-day this land can not be bought for less than \$35,000 to \$40,000 gold per league. Land quite 120 miles inland from the river, purchased 20 years ago for 40 centavos per hectare, or less than \$500 gold per league, is now offered at 22 pesos per hectare, which on normal exchange is equivalent to \$24,200 per league.

The Government lands, which are among the best in the Chaco, are being disposed of very slowly and with the idea of meeting only the demands of natural development. In this Argentina wisely recognizes that her forests, which consist mainly of extremely slow-growing hardwoods, are practically nonreplaceable, and being at best sparsely forested in proportion to her total area, great conservatism is being exercised in turning them over for private exploitation. The method of disposing of these lands has been changed from time to time, but at present the procedure is, after surveying and dividing the allotment to be sold into league blocks, to advertise for bids at so much per ton, the bid having to be accompanied by a small deposit



Photograph by C. R. Strotz.

A BATTERY OF QUEBRACHIO CARTS.

In Paraguay, the two-wheeled cart, drawn by four or more oxen, is still proving its great adaptability. In Argentina, however, a four-wheeled wagon is generally employed for hauling the logs.

as a guarantee of genuineness. On the date specified the timber rights are awarded to the highest bidder and a further deposit called for, to cover payment for the first year's minimum cut, an annual maximum and minimum being established by the Government Department of Forestry. Heretofore timber rights so disposed of have brought 3.50 pesos Argentine paper, *i. e.*, \$1.54 gold per metric ton, but it is a certainty that future sales will be at very materially higher prices. No one is allowed to bid on more than one league and the sales are not open to companies or corporations, nor can the rights so acquired be transferred. Upon failure to cut or at least

pay for the specified annual minimum the timber reverts to the Government. Political influence, however, enters into these transactions to such an extent that considerable latitude is allowed in the direction of those who are so fortunate as to control it.

As to the lands in Santiago del Estero and Formosa, neither a sufficient stage of development has been attained nor has a real necessity for exploitation arisen which warrants valuation, hence any value placed at this time upon the timberlands of these sections would be wholly speculative and one man's guess as good as another's.

In Paraguay the entire Chaco, comprising probably 90,000 square miles—this depending upon where the northern boundary between Paraguay and Bolivia is eventually located—is in the hands of private owners, having been long ago disposed of by the various governments, not infrequently as recompense for financial or other aid in one or other of the many revolutions indulged in by that unfortunate country. A notable instance of this is that of a prominent Argentine capitalist who, for an advance of \$300,000 gold, was awarded 3,000 square leagues—13,000,000 acres—the cost figuring out in United States currency $2\frac{1}{3}$ cents per acre. The Government maps show this region all nicely divided into rectangular blocks, according to the theoretical disposition as executed in the official engineer's office, but as the Chaco Paraguayo has never been surveyed, nor yet explored except along the basin of the Pilcomayo and for a fringe of 30 or 40 leagues back from the river, the ownership of any specific boundary is very much a moot point. Few of the owners have ever seen their chaco lands, and it is very doubtful if they would be able to identify them if they were to see them. However, this matter of division is of no interest to the general reader. From the paragraph on Paraguay's quebracho resources, it will be obvious that as a timber proposition the value is very low, indeed it is questionable if they are ever seriously considered as such by those who know anything about them, the value of the land for grazing being the first desideratum and the quebracho merely incidental. Primarily land values in this section are based upon proximity to the river, elevation as regards inundation, water for stock, and the proportion of open camp.

The present value of land bordering the river and extending inland 10 to 20 leagues—this includes the timbered zone—ranges from \$4,500 to \$8,000 gold per Paraguayan league of 4,621 acres: this is equivalent to \$6,100 to \$10,800 gold per Argentine league of 6,175 acres. As to future appreciation in value, as may be gathered, this is a matter that will be controlled by the development of grazing and agriculture.

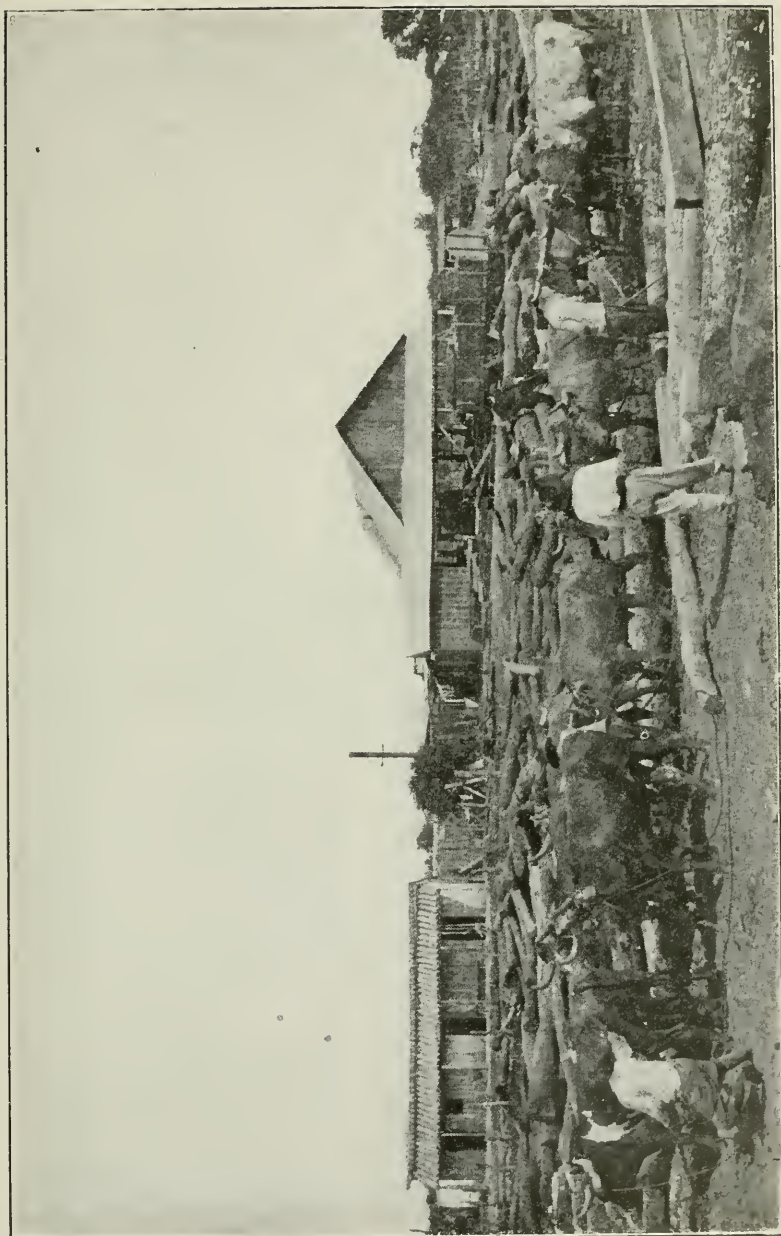
PHYSICAL ASPECTS OF QUEBRACHO COLORADO.

As the author is confining his remarks to observations made in the course of actual practice, a botanical description of this tree or its analogies, which if desired may be found in any botanical work on subtropical and tropical forest trees, is superfluous here.

It may be noted, however, that although the term "quebracho" is almost universally employed in North America and Europe in connection with quebracho colorado on account of its industrial importance, and to a more limited extent applied to a species the bark of which yields medicinal products, it has no botanical significance beyond having been originally applied to any tree the wood of which was particularly hard or brittle. The word itself is derived from the Spanish verb *quebrar*—to break, and *hacha*—an axe—axe-breaker. Forest trees are found in almost every Central and South American country, which are locally referred to as quebracho, but which bear no botanical relation to, nor close physical resemblance to the quebracho of other countries.

Compared with its North American parallel—the chestnut—the conditions under which the quebracho colorado flourishes and attains its greatest commercial value are quite circumscribed. Stretching from north to south over a range of latitude equal to that covered by the chestnut belt, the climatic conditions where quebracho grows most prolifically are much more uniform, especially with regard to temperature. By far the best stands of timber are found between latitudes $27^{\circ} 30'$ and 31° S., where the temperature rarely exceeds 105° F. (40.5° C.) in summer, and seldom falls below 28° F. (-2.2° C.) in winter, as against 95° F. (35° C.) in summer and as low as 15° F. (-9.4° C.) below zero in winter for the chestnut region, the effective difference lying in the temperature below the freezing point.

A notable feature is that the quebracho and chestnut richest in tannin grows in the southern extremities of their respective zones, the isotherms of which do not differ greatly, but, whereas the quebracho deteriorates toward the Equator, chestnut does so as it becomes more remote from it. In the latter case, climate is no doubt an important factor, but the same can not be said of quebracho, the deterioration being distinctly due to other causes. With the chestnut, altitude has a very marked effect upon the tannin contents, being equivalent to a latitudinal or climatic difference, but a thousand feet higher or lower in the same general locality is not noticeable, as the tree itself develops in dimension, and is as thrifty on a mountain top as on the lower levels. Quebracho, however, appears to be so very susceptible to variation in levels, that it is rarely if ever seen at an elevation as little as 50 feet above the surrounding plain, and this no doubt is a prime cause for its running out, at short



AN ASSEMBLING POINT FOR QUEBRACHO LOGS.

After the bark and sapwood have been removed the logs are hauled to the nearest railroad station or mill by oxen. These stations are located in the center of timber tracts, and from them radiate roads or narrow-gauge railway lines into the forest.

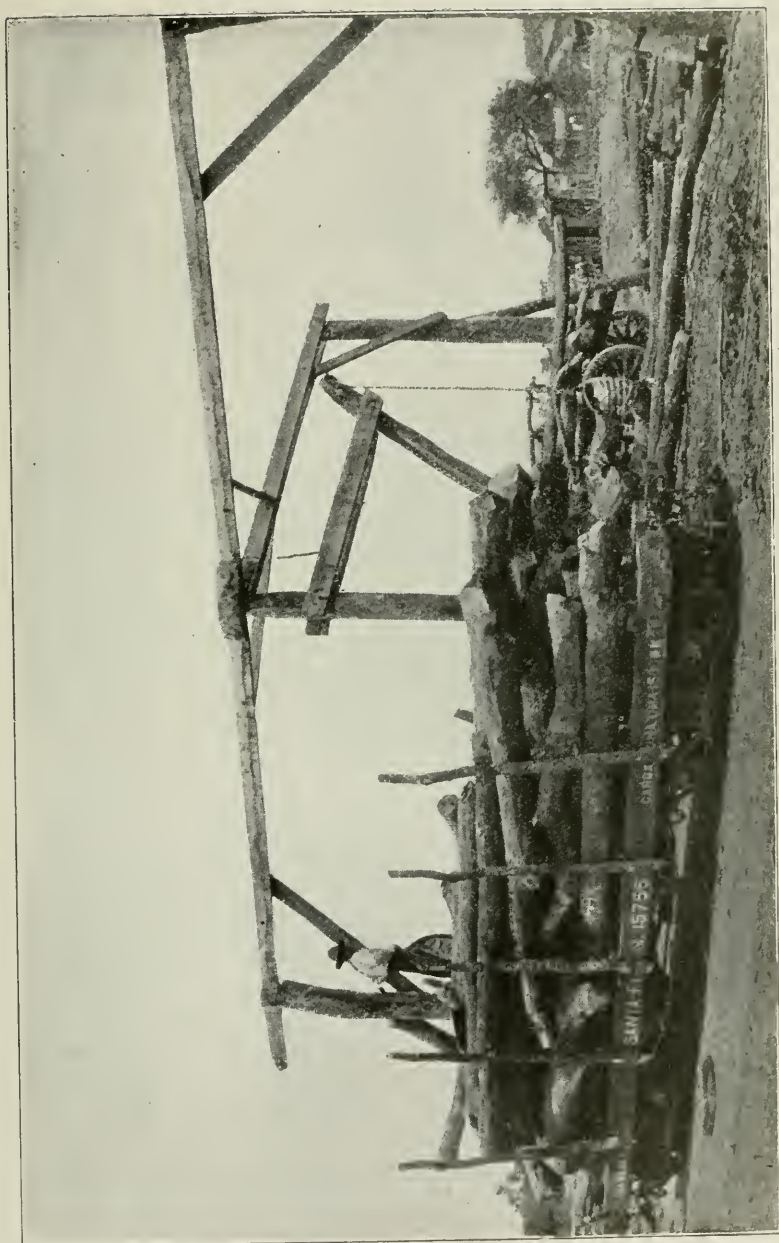
distances from the rivers which it borders, instead of spreading over the entire pampa, in which the general level rises 9 to 10 inches per mile towards the west.

It is not the higher level in itself which affects the growth, but, in the author's opinion, the difference in the moisture content of the soil. Observations tend to the conclusion that the balance in the moisture requirements of the quebracho tree is extremely delicate, but regarding this it must be explained that the soil of the pampa region is practically impervious to water, hence it is from surface flow and not by permeation or percolation that drainage is effected. A difference of a few feet in level will cause the soil to be almost arid in one spot, and a swamp or pond in the adjoining one. Neither of these conditions is conducive to the growth of quebracho, and as the jump from one to the other is not more than a few feet, it becomes apparent that favorable soil conditions for its growth have limitations practically unknown in a North American forest.

The existence of great levels in Santa Fe and also in the Chaco Argentina, which drain slowly enough to furnish the necessary moisture to the tree and yet with sufficient rapidity to obviate long or frequent inundation, accounts to a great extent for the superior stands of this timber in these sections; on the other hand it is the lack of them which has prevented it from attaining perfect development in Formosa and notably in Paraguay.

Beginning north of the Bermejo River and continuing on to the swamps of Puerto Suarez in the southeastern corner of Bolivia, the greater part of the country is subject to frequent inundation, and this is not confined to the esteros or low grounds, as the author has at various times ridden many leagues where the forest was from 2 to 3 or more feet under water. These floods are not altogether the results of local rainfall, but are often the result of the overflow of the river Paraguay, caused by the tropical rains many hundreds of miles to the north in Brazil. In fact great tracts of the Paraguayan chaco are often inundated where rain has not fallen for months.

Whether by reason of climate, or moisture, or both, there is a very marked difference in the character of the timber north of the Bermejo; in the Argentine the tree boles are comparatively short and thick, and the limbs heavy and of great spread, the limb-wood yielding from 10 per cent to 15 per cent of the total weight of the tree. In Paraguay the boles are long and slender, straight logs averaging between 7 and 8 meters (23 feet to 26 feet) in length as against 5 to 7 meters (16 feet to 23 feet) in Argentina, but the limbs as a rule are not of sufficient value to pay the cost of cleaning and hauling. The most important difference between the timber of the north and south consists in the yield of merchantable wood, or the proportion rendered worthless by heart rot.



LOADING QUEBRACHO LOGS ON A LOCAL RAILWAY.

It is with this somewhat primitive contrivance—a small hand-power hoisting crane—that the logs are loaded upon the cars.

In the south, about 10 per cent of the trees are so affected, whereas in Paraguay upwards of 60 per cent are decayed at the heart to a greater or less extent, many apparently sound, thrifty trees being rot-filled shells, a fact that is not always discovered until the ax is applied. During a careful examination of the stock in the yard of an Argentine tanning extract plant, where 30,000 tons of logs were piled so both ends could be inspected, less than 100 were found showing evidences of having had the decayed portion cut off. Of course there may have been many which were trimmed above the point of decay; still the yield per league of merchantable timber is rather conclusive evidence that the loss from this cause does not exceed 10 per cent of the total tonnage. As against this, if Paraguayan logs destined for timbers, sleepers, or extract manufacture were trimmed in accordance with Argentine practice, the loss would be at least 50 per cent. Figures given by an old established Paraguayan extract plant, show that 20 per cent of the weight of the logs brought to the mill was discarded. These figures do not include trimming done in the woods, nor trees considered worthless after felling. Reverting for a moment to yields and values, it will be noted that the merchantable quebracho timber north of the Bermejo, for equal areas, is only one-tenth that of Argentina.

The causes of decay appear to be similar throughout the whole quebracho region, and so far as observed, there are two principal ones. Where trees are standing on ground which has become chronically saturated with moisture, the rot begins at the heart of the bole at the point where the major roots spread, and gradually extends upward, eventually converting the trunk into a mere shell; occasionally it continues from the trunk into the larger limbs. Trees of all sizes and ages are equally subject to it, and the author has noted its existence in young trees not over eight inches in diameter. A secondary source of rot is that induced by the introduction of moisture and fungoid infection to the interior of the tree through the medium of a huge bore worm some three inches long and half an inch in diameter, which leaves a bore equal to its own size. These bores are sufficiently large and numerous to permit the washings during heavy rains to enter, and also provide a receptacle for wind-blown and insect-borne fungus spores; trees thus attacked succumb very quickly and completely. The absence of laboratory facilities prevented any attempt to determine whether fungi or moisture alone was the immediate cause of this decay, but it is quite apparent that a considerable excess of moisture is necessary for its promotion. A third but minor cause may be the lodgment of parasitic growths in



Photograph by C. R. Strotz.

A LOGGING TRAIN CARRYING INDIAN LABORERS IN THE QUEBRACHO REGION OF PARAGUAY.

the crotches of the main limbs, but as the period of observation did not permit of determining whether the rot or the parasite was there first, there is room for doubt.

Decay from the outside is never seen; in fact quebracho colorado is considered indestructible, even under trying conditions: railway cross ties and dock timbers which have been in service 40 years or more are, except for surface weathering, as sound as when installed, and it is said to resist the teredo or shipworm so destructive to submerged piling in tropical or subtropical waters. The foregoing circumstances point rather to fungi as being the chief factor of disintegration of the growing timber. . . .

FOREST OPERATIONS.

When one who has experienced the joys of getting logs or cord wood out of the rugged mountain fastnesses of Virginia, North Carolina, or Tennessee, first views the pampa forest, a desire for an opportunity to exploit a logging job as simple and easy as this appears to be is almost inevitable; a country level to the point of monotony, no inaccessible mountain steeps, ravines, or brawling boulder strewn water courses to encounter and overcome with roads and railways precariously perched upon hillside cuts, no bridges and trestles to be continuously bolstered up, nor geared locomotives running away round 18° curves and down 4 per cent grades on a slippery track; no wonder it makes a strong appeal to those who may have had to contend with the Blue Ridge or the Great Smokies. From a topographical and climatic point of view, it indeed seems a veritable woodsman's paradise, but while comparison is in favor of the pampa, the South American forest has its problems.

Logging is almost invariably done by contract, the individuals so engaged being usually in the business on a large scale as it involves the investment of considerable capital in equipment. Contracts are based upon a price per ton alongside rail, the contractor assembles his own labor and as a rule furnishes the necessary live stock, wagons, tools, and the other thousand and one appliances necessary; in the north (Paraguay) the operators are not infrequently obliged to furnish all the equipment and finance the operations, owing to the lack of contractors with sufficient capital to carry on the work.

The tannin extract companies with one or two exceptions depend upon their own timber holdings for a considerable proportion of their raw material, but also purchase logs in the open market as occasion warrants. This is deemed a necessary precaution against possible wet seasons, limited forest reserves, etc., and provides a market for sufficient logs to maintain the existence of private organizations whose sole business it is, while at the same time the maintenance of their own forest operations exerts a stabilizing effect upon prices.



A QUEBRACHO EXTRACT FACTORY.

The demand for quebracho has become so great that it has been found more economical to control the entire output from a central plant. In most cases, therefore, a factory is equipped for receiving the raw material as it comes from the forest and to convert it into sleepers, fence posts, or extract for tanning, as the demand may require.

Logs for extract manufacturing have in the past been graded into five classes, locally termed in the order of their value, Exportacion, consisting of sound, comparatively straight logs, Tipo Fabrica, sound but ill adapted for export shipment, with perhaps occasional traces of rot, Ragone, equivalent in the States to laps and limbs, Pica or Podrida, worm-eaten and with more or less rot, and Campana, fallen timber from which the bark and sap-wood has disintegrated.

Price is a matter of bargaining between buyer and seller. Prior to 1915 logs were laid down alongside rail in Argentina for from 6 to 8 pesos, i. e., \$2.65 to \$3.50 per metric ton, with somewhat lower figures for the inferior qualities, the cost delivered at mill depending upon the railway haul. Since then the increased cost of operating has sent the price up to from 18 to 22 pesos, i. e., to about \$8 to \$10. In Paraguay the prices have always been higher, and during 1920 were from \$10 to \$12 at river bank.

Until 1915 or 1916 the grading of logs was quite strictly observed, and large stocks of export material were accumulated for some time after the European conflict had brought exportation to a close, but with little or no prospect of a resumption of quebracho extract manufacturing in Germany—its principal seat in Europe—the necessity for classifying the two or three first grades disappeared and the mills are now receiving what might be termed forest run, the average quality being decidedly better than it was a few years ago. The foregoing applies wholly to Argentina, as in Paraguay the difficulty which extract plants and sawmills experience in securing an adequate supply of raw material precludes the development of an export trade in this direction.

In opening up a boundary of quebracho forest the procedure is similar to that practiced elsewhere, the first work being to clear out roads about 4 or 5 meters wide and running parallel 1 kilometer apart. This is done by men directly employed by the contractor. From these roads intersecting picadas or narrow pathways are cut dividing the territory into blocks approximately 1 kilometer square, the felling and log cleaning being subcontracted to individuals or small contractors employing a small number of men, who in turn work by the ton. After felling, the trunk and limbs large enough to warrant it are stripped of bark and white sapwood, leaving only the clear tannin-carrying redwood. The bark and sapwood vary greatly in thickness, being anywhere from 1 to 3 inches, the size or age of the tree being no index of thickness. The cleaning, which is accomplished by hewing off this outside in splinters lengthwise, constitutes four-fifths of the labor of the axeman. Men on this work fell and clean

on the average about 15 tons per month per man. During the working season the men erect a rude shelter and with their families live where they work, all food, clothing, and other supplies being sold to them by the contractor. He in turn frequently is compelled under his contract to purchase from the company for whom he is logging, with the result that the cost of the work to both virtually amounts to what it costs to maintain the men and their families.

After the logs are cleaned they are measured, the weight computed from the cubic contents, and the amount credited up to the axeman: the contractor's private mark is then stamped or painted upon the log, which is then ready to be dragged to the nearest hauling road. Here they are picked up by wagon and hauled alongside the railway.

The hauling is done by oxen—two pairs to the wagon—experience having demonstrated their superiority to horses or mules in both effectiveness and cost, for grazing on the open camp their upkeep is practically nil and when beyond working they are, after fattening up, worth what they cost as beef for the men. In Argentina the four-wheeled wagon is most generally employed, but in Paraguay where muddy roads are more prevalent, and there is no limb wood to haul, the 8-foot two-wheeled timber cart is still proving its greater adaptability.

The organization of a successful woods operation in these countries is an undertaking which requires all the strictness and precision of a military system. The most stringent supervision is requisite to prevent peculation, graft, and deception with reference to weights and measures, and keep in order an outfit more or less inclined to—fiestas, let us say. Both contractor and owner must constantly keep reliable staffs in the field, checking up the live stock and equipment, for in the mind of the simple peon the line between *meum* and *tuum* is somewhat hazy.

With regard to labor—the system is distinctly that of peonage—it is plentiful and for the most part recruited from the peon class, who are essentially, with perhaps a slight mixture of Latin blood, descended from the aboriginal Indian of the country; in intelligence and general qualifications they are superior to the southern negro, but not equal to the emigrant from southern and southeastern Europe, who in considerable numbers augment the ranks in the slightly more important classes of work; simple minded, their wants are few, good natured though quick to provoke to blood-letting, they are care free and irresponsible to a degree, and not given to work more than is necessary to make buckle and tongue meet.

Fond of cock-fighting, *tava*, and card playing, they gamble away in a few hours any balance that may be coming to them at the end

of the month and are ready to start over again, without regret for the past or hope for the future.

A fair idea of the personnel, live stock, and equipment required to carry on a moderate sized operation, taking out say 200 tons of logs per day, may be gained from the following tabulation, which is subject to modification according to whether the haul is longer or shorter than an average of one and a half leagues; the figures given however, are based upon actual operation under normal conditions.

As the men are invariably accompanied by their families, there are at least 3,000 men, women, and children to feed, clothe, and administer; not a small task in these remote regions, as, for instance, the item of beef alone for such an outfit as that above cited requires the product of a herd of 25,000 cattle.

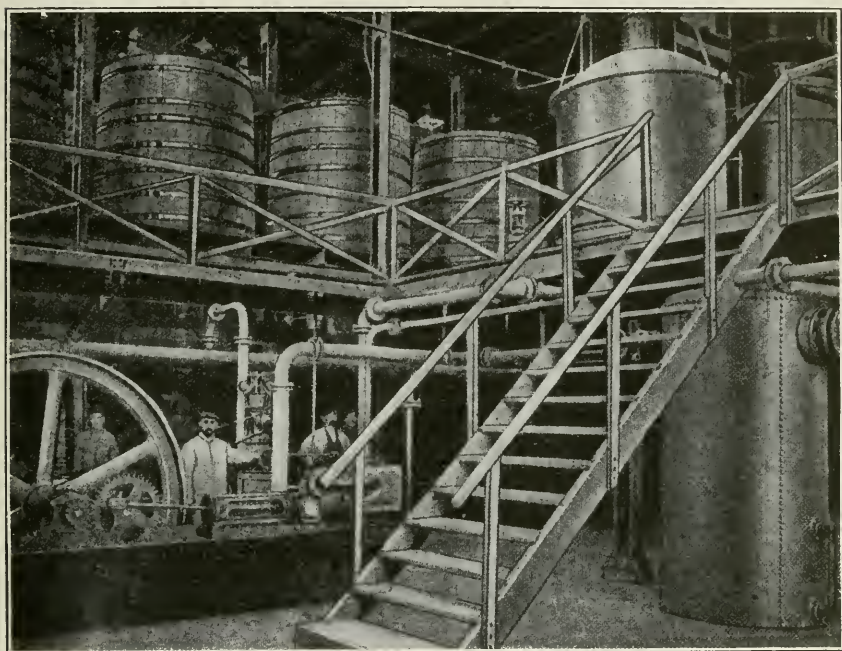
Superintendent and assistant.....	2
Foremen.....	10
Storekeepers and assistants.....	6
Carpenters and blacksmiths.....	12
Axemen.....	350
Log cart drivers.....	100
Herd and caring for oxen.....	10
Sundry labor.....	20
Total for logging.....	508
Subsidiary work, such as getting out fence posts, cross ties and fuel wood.....	100
Grand total.....	608

The capital investment in live stock and equipment for such an operation is represented by the following list:

Oxen, fully broken (2,000 at \$65).....	\$130,000
Young steers being broken for replacement (500 at \$15).....	22,500
Horses, saddle (100 at \$35).....	3,500
Log wagons (150 at \$150).....	22,500
Box and water carts (40 at \$65).....	2,600
Tools, chains, etc.....	10,000
Spare parts and repair material.....	5,000
Carpenter and blacksmith shops.....	2,500
Total.....	198,600

The duration of the working season depends entirely upon the weather, and to a considerable extent in some localities upon how prevalent mosquitoes and pulverinos are, for there are periods when human existence is made unendurable by these pests, especially is this so in Paragnay—the land of insects. Extremes of either drought or wet effectually put a stop to all work involving the use of live stock, the former on account of insufficient water and pasture—

it requires 12,000 to 15,000 acres of natural grass land to graze the live stock for an operation as given above—while in wet weather the roads become bottomless canals of liquid mud in a very short time. A fair estimate, perhaps, would be nine months of the year for Argentina and not to exceed seven in Paraguay. In any event it is imprudent to rely upon a longer period for stocking the annual requirements of a mill.



INTERIOR OF A QUEBRACHO EXTRACT FACTORY.

Modern machinery of the best quality is used in these factories, even when they are located miles away from the centers of civilization. After being prepared in vats and boilers, the quebracho extract is pressed into sacks for drying and it is in this condition that it is shipped to the markets.

TRANSPORTATION.

For the transportation of logs to extract plants and sawmills both rail and water routes are available, although the latter are employed to a rather limited extent and only when logs are brought from remote places where there are no railways. The Argentine district is well served by the Ferrocarril Santa Fe, a French-owned road, which consists of a meter-gauge trunk line running north, with many branches east and west, from the city of Santa Fe to Resistencia, the capital of the territory of the Chaco. From the Parana River near Barranqueras (Balilla) the national line, Ferrocarril Central

Norte, runs slightly northwest through the quebracho belt at its greatest width for a distance of more than 200 kilometers to Today, from whence a branch runs south into the Province of Santiago del Estero. These roads are as well built as the resources of the country permit, and all things considered render very fair service.

From these trunk systems the private companies have constructed many hundreds of kilometers of 60-centimeter or 24-inch gauge railway running to the scene of operations, one company alone having approximately 300 kilometers of such lines, and nowadays it is only rarely anyone hauls by oxen more than the distance of 3 leagues.

In Paraguay practically all transportation of logs is over the lines built by the owners of the plants, which, without exception, are located immediately on the river; these railways, of course, run only from the plants to the forest, and serve in no way to connect up one place with another. Several companies whose reserves or equipment are not sufficient to stock their mills transport such purchases as can be made by water exclusively, and all logs and timber destined for export are conveyed to the Parana and Paraguay Rivers by rail and thence via water to the deep-water ports.

As may be surmised the construction of railways in the quebracho region is a comparatively simple matter; grades are unknown and circuitous routes unnecessary, while the erection of bridges or trestles presents no real difficulty. The fly in the ointment—for there is one—lies in the absence of material suitable for setting up a permanent roadbed. Stone or gravel does not exist anywhere in the whole region, hence the alluvial soil is perforce employed. In wet weather it rapidly acquires a soaplike consistency, which makes the maintenance of levels impossible, and not always can the ties and rails be kept from sliding off the roadbed altogether. A certain degree of permanency is attained by covering the cross-ties to the level of the ball of the rail with earth, leaving the surface heavily cambered, and drained at each rail joint. To maintain these roads in servicable condition constant labor and attention is necessary, for once water gets under the cross-ties, the bed will melt away like soap.

THE GENERAL ASPECT OF THE FOREST.

Having dealt with the commercial phases of these forests, a brief afterword of general description supplementary to that at the beginning of this article may not be considered amiss.

It is in the early summer, for there are really but two seasons down there, that the forest of the pampas is at its best. If the season has been normally moist one may ride for endless leagues through flower-carpeted and verdant levels, among islands and miniature continents of woodland in a combination which rivals in interminable



SHIPPING QUEBRACHO LOGS.
Part of a huge quantity of quebracho logs assembled at a shipping point on the Parana River for transportation to world markets.

variety of extent and vista the most beautiful of carefully nurtured park lands.

Primordial in aspect and primordial in fact, for many centuries have elapsed since thousands of these trees first proved their right of survival by lifting their evergreen crowns above the impenetrable jungle of subtropical vegetation and parasite. As though existing in dread of the day when the woodman's ax would dispute their right to live, it would seem as if they, the monarchs, had reared their heads on high and then surrounded themselves with an armed force to defy the attacks of the god utility. From the lowly caraguaty to the 20-foot cacti, not excluding the tangled drapery of vine and creeper, everything that grows seems, with spike and thorn, to be on the defensive, and woe betide the man who has the hardihood to attempt to force their barriers without the ruthless services of the machete. Beholding them one feels instinctively, here are the haunts of the jaguar, puma, and mountain cat.

If the grasslands remind one of the disordered profusion of an old-fashioned garden, the glories of the flowering shrubs, and great blossoming trees would furnish a fitting subject for the pen of a poet or the brush of a Maxfield Parrish, for the riot of color is more like the stuff dreams are made of than prosaic reality. In groups and singly, the cerulean blue of the lapachos, cerise and pinks of the palo rosa, the blood-warm oranges and reds of the acacias and yellows of the para, all form a picture which requires a more skilled pen than the writer's to do justice. A single stem from any of these trees is almost an armful of blossom.

Wild animals, game, and birds, though in great variety, are not, excepting the predatory species, numerous; any lack in this respect, however, is made up in others, for there are times when either artist or philosopher would have difficulty in appreciating the scene with the calm born of the silent places of the earth, for in the midst of these marvels of generous nature one too often is exposed to the torture of the pulverino, a microscopic sand fly, which rises from the ground in clouds like morning mist, and which to get a taste of human gore will penetrate all but the finest of mosquito nettings; while a not unknown occurrence is for one's horse to lie down under the saddle to roll the mosquitos off. So numerous do they become at times as to make vision or conversation impossible, not only do they get in one's eyes, ears, and hair, but in the mouth when it is unwarily opened. Despite these discomforts, however, the country is healthy when life is lived in the open, and binds many to it with the never fading charm which vastness of space holds for mankind.

PAN AMERICAN CONFERENCE OF WOMEN . . .

A PAN American conference of women will be held in connection with the third annual convention of the National League of Women Voters which is to be held in Baltimore, Md., April 20 to 29, 1922.

Cooperating with the League in bringing the Pan American women's conference to the United States are the Secretary of State, Mr. Hughes, the Secretary of Commerce, Mr. Hoover, and Dr. L. S. Rowe, Director General of the Pan American Union.

The invitations to the Governments of South and Central American countries to send delegates to this Pan American conference have been forwarded through the State Department and its diplomatic representatives in the Republics of Latin America. While not an official invitation from the Government of the United States, the plan has received the sanction and approval of administration officials, who view with favor conferences of this character, which cannot fail to promote a better understanding and more friendly relations between the citizens of the Republics of this continent. The main purpose of this conference, according to Mrs. Maud Wood Park, national president of the League of Women Voters, is to bring the women of the United States into more friendly relations with the women of South America, Central America, Mexico, and Canada.

Baltimore, on the joint invitation of the Maryland League of Women Voters, the State of Maryland through Gov. Albert C. Ritchie, and the city of Baltimore through Mayor Henry Broening, at the national convention at Cleveland last April, was selected as the next convention city. The suggestion of the Maryland League of Women Voters, that a Pan American conference of women would fittingly carry on and strengthen the friendly relations and good will, the foundations for which were so admirably laid by the Woman's Auxiliary Committee of the Second Pan American Scientific Conference of December-January, 1915-16, and which it is expected the Limitation of Armament Conference will still further cement, is heartily concurred in by Dr. Rowe, of the Pan American Union.

In making plans for the coming Pan American conference the National League of Women Voters consulted Secretary of State Hughes, Secretary of Commerce Hoover, and Dr. Rowe, Director General of the Pan American Union, by whom they have been cordially approved. The plans were first presented to Mr. Hughes and Mr. Hoover by a delegation consisting of Mrs. Maud Wood Park,



MRS. MAUD WOOD PARK
President of the National League of Women Voters.

president of the National League, Mrs. Charles E. Ellicott, Mrs. William M. Maloy, and Miss Lavinia Engle, representing the Maryland League of Women Voters, Gov. Ritchie, and Messrs. Perring and Brittain, representing the State and city. Upon its approval by the Cabinet officers, the plan was laid before the Baltimore Board of Trade by the league, receiving their hearty indorsement. Plans for entertaining the distinguished guests are already under way.

"We have had a number of conventions of the men of the Pan American States," said Mrs. Park in speaking of the coming convention, "but in my opinion this Pan American conference of women will do more to cement good fellowship and create a genuine feeling of confidence in diplomatic and international relations than any other single act could do."

The tentative agenda for the conference is:

April 20, 21, and 22.—Round table conferences on the following subjects:

Child Welfare, in charge of Miss Grace Abbott, Chief of the Children's Bureau, Department of Labor, United States.

Education, in charge of Miss Julia Abbott, Kindergarten Division, Bureau of Education, Department of the Interior, United States.

Women in Industry, in charge of Miss Mary Anderson, Chief of the Woman's Bureau, Department of Labor, United States.

Prevention of Traffic in Women, in charge of Dr. Valeria Parker, Executive Secretary of the Interdepartmental Social Hygiene Board, United States.

Civil Status of Women, in charge of Mrs. Mabel Willebrandt, Assistant Attorney General, Department of Justice, United States.

Political Status of Women, in charge of Mrs. Carrie Chapman Catt, President of the International Woman Suffrage Alliance.

Sunday afternoon, April 23.—Mass meeting, addressed by Pan American delegates. General subject, "Leaders Among Women."

Monday evening, April 24.—Large semi-public dinner; speeches by National and Maryland officials and by delegates of the conference. General subject: "International Friendliness."

April 25, 26, and 27.—Regular meetings of the Annual Convention of the National League of Women Voters. At these meetings the delegates to the Pan American Conference will be given all the privileges of the floor except a vote.

Friday, April 28.—"Washington Day:" Visits to Capitol, Pan American Union, and other places of interest. Evening mass meeting in Washington: General subject, "What the Women of the Americas Can Do to Promote Friendly Relations."

Saturday, April 29.—"Annapolis Day:" By invitation of the Governor of Maryland.

LATIN AMERICAN COUNTRIES AND THE INTER-PARLIAMENTARY UNION

By ARTHUR DEERIN CALL

Executive Secretary, American Group of the Interparliamentary Union

THE Interparliamentary Union exists for the purpose of "uniting in common action the members of all parliaments constituted in national groups in order to bring about the acceptance in their respective countries, either by legislation or by international treaties, of the principle that differences between nations should be settled by arbitration or in other ways either amicable or judicial. It likewise has for its aim the study of other questions of international law, and in general, of all problems relating to the development of peaceful relations between nations." Organized in Paris in October, 1888, upon the initiative of William Randal Cremer, member of the British Parliament, assisted by Frédéric Passy of the French Chamber of Deputies, there were, in 1913, 22 nations in the Union. These nations were: Austria, Belgium, Bulgaria, Canada, Denmark, France, Germany, Great Britain, Greece, Holland, Hungary, Japan, Norway, Portugal, Rumania, Russia, Servia, Spain, Sweden, Switzerland, Turkey, and the United States. The membership at that time included 886 senators, 2,131 representatives, 223 members of single chamber parliaments, 3,331 altogether. The figures for the United States were: 36 Senators, 228 Representatives, 1 former Member of the Congress: total, 265. Conferences have been held as follows: 1888, Preliminary Conference, Paris, Grand Hotel, October 31; 1889, First Conference, Paris, Hotel Continental, June 29-30; 1890, Second Conference, London, Hotel Metropole, July 22-23; 1891, Third Conference, Rome, The Capitol, November 3-7; 1892, Fourth Conference, Berne, Chamber of the National Council, August 29-31; 1894, Fifth Conference, The Hague, Senate Chamber, September 4-6; 1895, Sixth Conference, Brussels, Senate Chamber, August 12-15; 1896, Seventh Conference, Budapest, Senate Chamber, September 23-24-26; 1897, Eighth Conference, Brussels, Chamber of Representatives, August 6-9-11; 1899, Ninth Conference, Christiania, Chamber of the Storting, August 2; 1900, Tenth Conference, Paris, Senate Chamber, July 31-August 1-3; 1903, Eleventh Conference, Vienna, Lower Chamber, September 7-9; 1904,



MEMBERS OF THE AMERICAN PARTY IN ATTENDANCE UPON THE NINETEENTH CONFERENCE OF THE INTERNATIONAL PARLIAMENTARY UNION, STOCKHOLM, SWEDEN, AUGUST 16-20, 1921.

Top row: Former Representative James L. Shlayden, Texas; Representative Andrew J. Montague, Virginia; Representative Alben W. Barkley, Kentucky; Arthur Duerin Call, Executive Secretary of the American group; Representative Edwin B. Brooks, Illinois; Representative Fred A. Britton, Illinois.
 Bottom row: Senator Joseph T. Robinson, Arkansas; Mrs. Montague; Senator Thomas A. Walsh, Montana; Mrs. Call; Senator William B. McKinley, Illinois, President of the American group.

Twelfth Conference, St. Louis, U. S. A., Festival Hall of the Exhibition, September 12-14; 1905, Thirteenth Conference, Brussels, Chamber of Deputies, August 28-30; 1906, Fourteenth Conference, London, Royal Gallery, Houses of Parliament, July 23-25; 1908, Fifteenth Conference, Berlin, Chamber of the Reichstag, September 17-19; 1910, Sixteenth Conference, Brussels, Chamber of Deputies, August 30-September 1; 1912, Seventeenth Conference, Geneva, September 18-20; 1913, Eighteenth Conference, The Hague, Chamber of the States General, September 3-5; 1921, Nineteenth Conference, Stockholm, House of Parliament, August 16-20.

The work of the Union is organized under the Interparliamentary Bureau, the Interparliamentary Council, and an executive committee. The Bureau, originally established at Berne, moved to Brussels in 1909. During the war it was located at Christiania, Norway. It is now at 2 Chemin de la Tour de Champel, Geneva. The management of the Bureau is in the hands of the Secretary General, Dr. Christian L. Langé, formerly a member of the Norwegian Parliament. The duties of the Bureau are to keep the lists of the members of the national groups; to encourage their formation; to serve as an intermediary between all the groups in their relations to each other; to prepare the questions to be submitted to the Council and the Conference, and to distribute in due time the necessary documents; to execute the decisions of the Council and of the Conferences; and to keep the archives. Since 1899 the work of the Bureau and of the Union in general has been directed by an Interparliamentary Council composed of two delegates from each national group. The first permanent chairman of the Council was M. Auguste Beernaert, Belgian Prime Minister. Mr. Beernaert dying in 1912, Lord Weardale, formerly Hon. Philip Stanhope, was elected President. The members of the Interparliamentary Council, elected at the Stockholm Conference, are as follows:

President: Rt. Hon. Lord Weardale.

MEMBERS.

Germany: Messrs. Schücking and R. Eickhoff.

United States: Messrs. Burton and Slayden.

Austria: Messrs. Mataja and Waber.

Canada: Messrs. Dandurand and Smeaton White.

Denmark: Messrs. Moltesen and Borgbjerg.

Finland: Messrs. Mantere and Procopé.

Great Britain: Lord Weardale and Sir James Agg-Gardner.

Greece: Messrs. Baltazzi and Typaldo Bassia.

Hungary: Messrs. de Miklos and Count Paul Teleki.

Italy: Messrs. Schanzer and Belotti.

Norway: Messrs. Michelet and Mowinkel.

Japan: Messrs. Tanaka and Nozoyé.

Holland: Messrs. Koolen and Rutgers.

Rumania: Messrs. Etienne Ciceo Popp and Constantin Halaceano.

Serb-Croate-Slovene State: Messrs. Voukitchevitch and Choumenkovitch.

Sweden: Messrs. Baron Adelswärd and Branting.

Switzerland: Messrs. Scherrer-Füllemann and de Meuron.

HONORARY MEMBERS (ART. 13 OF THE STATUTES).

Messrs. Baron Descamps-David (Belgium), Horst (Norway), Fallières (France), Baron de Plener (Austria), Bartholdt (America).

The chairman of the Council is ex officio chairman of the executive committee. The other members of the executive committee are:

Rt. Hon. Lord Weardale (Great Britain), president; Messrs. Baron Adelswärd (Sweden), Burton (America), Schanzer (Italy), Scherrer-Füllemann (Switzerland).

The Stockholm meeting was attended by representatives from Sweden, Great Britain, Holland, Japan, Italy, Norway, Switzerland, Germany, Finland, Denmark, Austria, and the United States. The American party was made up as follows: Senator William B. McKinley of Illinois, president of the American group, and Senators Joseph T. Robinson of Arkansas and Thomas A. Walsh of Montana; Representatives Andrew J. Montague of Virginia, Alben W. Barkley of Kentucky, Edwin B. Brooks of Illinois, and Fred A. Britten of Illinois; former Representative James L. Slayden of Texas; Arthur Deerin Call, executive secretary of the American group; Mrs. Montague and Mrs. Call.

The following resolution, submitted by Mr. Slayden of the United States and adopted unanimously by the Stockholm Conference, will be of special interest to every American Republic. The resolution reads:

Since there are 22 sovereign States included in North, South, and Central America; since only two of these, the United States of America and Canada, are associated with the Interparliamentary Union; since, in this crisis of the world's affairs, it is extremely important that the Union and its influence shall be developed as rapidly and broadly as possible; and since the association of these 20 new groups would advance materially the development of the Union; therefore, and in view of these facts, be it

Resolved, That the secretary general of the Interparliamentary Union be directed to extend and in its name, through their presiding officers, to the members of the national legislatures of the following countries: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, El Salvador, Uruguay, and Venezuela, invitations to form national groups for association with the Interparliamentary Union.

Upon the initiative of Senator William B. McKinley, president of the United States of America group, a number of the European parliaments have actively promoted the Conference on the Limitation of Armament now in session at Washington.

LATIN AMERICAN FOREIGN TRADE IN 1920—A GENERAL SURVEY.

Countries.	Imports.			Exports.			Total foreign trade.		
	1919	1920	Increase.	1919	1920	Increase.	1919	1920	Increase.
Mexico.....	\$118,354,870	\$178,396,392	\$60,041,522	1 \$185,000,000	1 \$213,000,000	\$28,000,000	\$303,354,870	\$391,396,392	\$88,041,522
Guatemala.....	14,215,865	18,341,463	4,125,598	22,419,134	18,102,905	3 4,316,228	36,634,900	36,417,369	3 187,530
Salvador.....	14,958,196	2 18,000,000	3,041,804	16,745,290	2 25,000,000	8,254,710	31,703,486	2 43,000,000	11,296,514
Honduras.....	6,031,376	12,800,702	5,929,386	5,997,741	6,944,725	946,984	12,929,117	19,805,187	6,876,070
Nicaragua.....	7,912,653	13,864,389	5,951,736	12,400,473	10,787,345	3 1,622,128	20,322,195	24,635,734	4,313,539
Costa Rica.....	7,517,989	22,369,997	14,852,008	17,748,835	14,933,551	3 2,815,284	25,265,824	37,303,548	12,037,724
Panama.....	11,406,880	17,161,168	5,754,288	3,777,028	3,552,271	3 204,757	15,163,908	20,713,439	5,549,531
Cuba.....	359,326,624	521,471,279	165,144,655	574,372,657	782,531,749	208,159,092	933,690,281	1,307,023,028	373,332,747
Dominican Republic.....	22,019,127	46,525,876	24,506,749	39,601,892	58,731,241	19,129,349	61,621,019	105,257,117	43,636,098
Haiti.....	17,117,608	27,398,411	10,280,803	21,460,045	18,900,692	3 2,470,013	38,577,653	46,388,443	7,810,790
North American Republics.....	579,761,188	879,392,737	299,631,549	899,512,005	1,152,503,820	253,081,725	1,479,273,283	2,031,986,557	552,713,274
Argentina.....	636,069,125	828,477,000	192,377,875	1,000,036,300	976,506,000	3 23,440,300	1,636,135,425	1,805,073,000	168,937,575
Bolivia.....	24,178,859	2 23,000,000	3 1,178,859	56,258,906	2 51,000,000	3 2,258,906	80,436,955	2 77,000,000	3 3,436,955
Brazil.....	346,907,226	459,039,186	113,031,960	505,467,038	385,536,352	3 180,936,686	913,374,264	845,469,578	3 67,904,686
Chile.....	146,483,331	166,033,810	19,650,479	115,086,638	288,965,301	173,208,663	262,179,989	455,009,111	192,829,122
Colombia.....	48,487,784	94,225,273	45,737,489	73,029,256	70,371,746	3 8,657,510	127,517,020	164,397,019	37,079,999
Ecuador.....	11,657,736	21,035,974	9,378,238	21,005,191	24,181,129	3 3,175,938	32,672,927	45,217,103	12,544,176
Paraguay.....	15,360,891	12,794,944	2,565,947	14,571,633	14,510,400	3 18,707	29,732,524	27,235,349	3 2,497,175
Peru.....	59,310,632	25,683,388	25,627,244	136,731,191	2 155,000,000	24,268,809	190,041,853	240,000,000	49,958,147
Uruguay.....	43,788,145	50,001,508	6,213,363	133,181,555	83,981,789	3 69,199,766	196,969,700	134,073,297	3 62,896,403
Venezuela.....	33,903,810	59,583,129	25,680,319	49,923,069	32,431,499	3 17,491,570	85,526,879	92,029,628	6,492,749
South American Republics.....	1,368,187,529	1,800,186,829	431,999,300	2,186,699,987	2,065,508,256	3 101,191,731	3,554,887,516	3,889,695,085	330,807,569
Total Latin America.....	1,947,948,717	2,679,579,566	731,630,849	3,086,212,082	3,238,102,076	151,889,994	5,031,160,799	5,917,081,642	885,920,843

Estimate in part.

* Estimate.

* Decrease.

LATIN AMERICAN FOREIGN TRADE IN 1920: GENERAL SURVEY

THE foreign commerce of the 20 Latin American Republics for the year 1920 amounted to \$5,917,681,642, an increase of \$883,520,843 over the preceding year. Imports increased from \$1,947,948,717 in 1919 to \$2,679,579,566 in 1920, and exports from \$3,086,212,082 to \$3,238,102,076.

All Latin America—10 years' trade.

	Imports.	Exports.	Total.
1911.....	\$1,159,490,516	\$1,283,232,640	\$2,442,723,156
1912.....	1,242,512,578	1,573,533,307	2,816,045,885
1913.....	1,321,861,199	1,552,750,952	2,874,612,151
1914.....	907,841,133	1,275,312,612	2,183,153,745
1915.....	809,925,700	1,658,469,301	2,468,395,001
1916.....	1,040,662,174	1,866,966,627	2,907,628,801
1917.....	1,367,211,849	2,062,424,202	3,429,636,051
1918.....	1,494,131,101	2,409,036,805	3,903,167,906
1919.....	1,947,948,717	3,086,212,082	5,034,160,799
1920.....	2,679,579,566	3,238,102,076	5,917,681,642

The table shows that in the period from 1911 to 1920 Latin American foreign trade more than doubled in value. A very considerable part of this increase was due to increases in commodity prices and a part to a change in the bases of statistical valuation of exports and imports made by some of the countries, especially by Argentina, Uruguay, Paraguay, and Bolivia. Making due allowance for both, the fact remains that the volume of imports and of exports by quantities made a large gain in the 10 years, which included the 4 years of the German war, and that the volume by values made a much larger gain.

Especially great was the gain of \$2,000,000,000 made in the last two years. On the side of imports it was \$1,185,448,465, and on the side of exports, \$829,065,271. This difference between exports and imports of \$356,383,194 gives rise to the suspicion that some countries of Latin America may have overbought themselves in the two years. The figures for the part of the year 1921 available show that the idea is not without foundation, since in the earlier months of 1921 there was a large falling off in imports, although as the year advanced increased importation has developed. The buying power of the Latin American countries is more quickly responsive to produc-

tion and export than in countries like the United States of broader and more diversified industry. When exports are larger and prices good, Latin America buys to the limit with a tendency to go beyond, but when exports drop it stops buying, often more abruptly than is necessary. All this is because there is no broad diversified industry to take up in one place the shock that occurs in another. The response to falling exports is almost immediate, and so it is to over-buying, which seems to have occurred in 1919 and 1920.

EXPORTS.

In general.—The exports of the Latin-American countries, while large in volume and of great value, are comparatively few in number and they differ much among the 20 countries.

The principal exports of the countries are as follows:

Mexico.—Gold, silver, antimony, mercury, copper, lead, zinc, mineral oils, sisal, hides, and skins. There are some exports of rubber, woods, peas, and beans.

Guatemala.—Coffee, hides, woods, bananas.

Salvador.—Coffee, silver, bananas.

Nicaragua.—Coffee, woods, rubber, sugar.

Costa Rica.—Coffee, bananas, gold, silver.

Panama.—Bananas, ivory nuts, coconuts, rubber.

Cuba.—Sugar, molasses, distillates, tobacco, iron and copper ore, woods, fruits, hides, and skins.

Dominican Republic.—Sugar, cacao, tobacco, coffee, bananas, and hides.

Haiti.—Coffee, cacao, honey, cotton, cotton seed, and logwood.

Argentina.—Frozen beef and mutton, hides, wool, sheepskins, goat-skins, bristles, canned meats, beef scrap, tallow, butter, grease, bones, wheat, flour, corn, linseed, oats, hay, bran, and quebracho.

Bolivia.—Tin, silver, bismuth, copper, rubber, coco, wolframite.

Brazil.—Coffee, rubber, beef, hides, yerba mate, cacao, tobacco, skins, sugar, gold, manganese, cotton, cotton seed, bran, monazite sand.

Chile.—Nitrate of soda, iodine, copper, silver, fruits and grains, beans, hides, wool, furskins.

Colombia.—Coffee, bananas, cattle, tobacco, ivory nuts, rubber, cacao.

Ecuador.—Cacao, ivory nuts, rubber, coffee, gold, hides.

Paraguay.—Hides, beef, quebracho, yerba mate, tobacco, fruits.

Peru.—Copper, vanadium, wolframite, mineral oils, rubber, sugar, cotton, wool, guano, hides.

Uruguay.—Wool, hides, beef, tallow, hair, wheat, flour.

Venezuela.—Coffee, cacao, rubber, hides, goatskins, gold, meats, copper, sugar.

IMPORTS.

In general.—For most practical purposes we may consider the imports of the Latin American countries as identical in kind. What one buys, all buy. This is because the great bulk of the imports are finished manufactures. Subject to modifications in a few lines of goods arising from climatic differences and in a much less degree to modifications arising from cultural differences, the wants and needs of the peoples of all the countries for finished manufactures is the same, and in a general survey these differences may be disregarded. Finished manufactures represent the bulk of imports, but not all, and it is outside of this classification that one finds radical differences in imports. Unfinished manufactures, raw and partly finished material for manufacture, manufacturing machinery, and primary foodstuffs represent the field of variation. Only the countries that have developed manufacturing industries import raw and partly finished materials; fibers, especially cotton and cotton yarns; metals, in pigs, sheets, and bars; industrial chemicals; leathers, and machinery, and tools for manufacturing. None of the countries are entirely devoid of some form of manufacture. Boots, shoes, and harness are fabricated in all the countries, and bookbinding and upholstering are carried on. So the demand for leather exists in all. Domestic production supplies this demand for some, but by no means for all grades and kinds of leather, and consequently the missing kinds and grades and part finished leather goods find a sale in all the countries. Nevertheless, leather goods manufacture on a large scale is found in only four or five of the twenty countries and these countries are the chief importers of leather. So in furniture and carriage and other vehicle manufacture every country has a more or less developed industry, although it may be on the small shop basis. But even these small shops require raw and part finished materials and in general must import the same.

The importation of raw and partly manufactured materials is growing and will continue to grow with the development of the local manufacturing industries. The trade has already assumed considerable proportions in such countries as Mexico, Argentina, Brazil, and Chile. Yet as compared with the importation of raw industrial materials by the manufacturing countries of Western Europe the Latin American market is quite a small one. It is also a very diversified one. There are radical differences in the raw material imports of Argentina and of Mexico, for example, and these differences must be studied in detail.

There are even greater differences in the importation of foodstuffs. The Latin American countries produce about three-fourths of all the

coffee produced in the world and nearly the same proportion of cacao. These countries likewise furnish more than one half the exportable sugar supply, so one might naturally suppose that there was no market in any Latin American country for coffee, sugar, or chocolate, yet as a matter of fact, about one-half the countries import coffee, and more than half, sugar and chocolate. The reason is that not all the countries are producers, and some, while producing, do not produce in quantity sufficient for the domestic consumption. Brazil, with Colombia and Venezuela and the countries surrounding the Caribbean, except Cuba and Panama, produce a surplus of coffee, but the other countries are coffee importers. Cuba, Brazil, Peru, the Dominican Republic, and occasionally Argentina, or some other, produce sugar for export, but there are always ten or more Latin American countries importing sugar. Only a few countries, Ecuador, Brazil, Venezuela, and the Dominican Republic chiefly, export cacao. Most of the remainder import chocolate and other cacao products.

To a greater degree is there diversity in the staple foods, wheat, wheat flour, corn, beans, potatoes, salt meats, bacon, lard, and butter. Only two countries, Argentina and Uruguay, and occasionally Chile, produce wheat in exportable quantities and some produce not at all. Except these three, all others import large quantities of wheat and flour and there is a constant market for the same. Most of the countries produce corn sufficient for domestic needs, although there may be occasional imports by all, except Argentina, Uruguay, and Chile. The first named is a large exporter of corn. Potatoes and beans are imported by nearly all the countries, although there is a considerable production of beans and on the west coast of South America, of potatoes. There is but little importation anywhere of beef and mutton products. Nearly all the countries, except Cuba and Panama, are able to supply the home demand, and Argentina, Uruguay, Chile, Brazil, Colombia, and sometimes others export, Argentina and Uruguay on a large scale. It is different with hog products. Until recently no Latin American country possessed hogs sufficient to meet the domestic demand for pork, bacon and lard, but in the last few years Argentina has established the hog industry on an export basis, and Chile, Uruguay, and Brazil are following in the same line.

The same is true of dairy products, especially butter. Argentina, for 50 years a beef exporting country, now exports butter. Uruguay, Chile, and Brazil are developing the dairy industry. All the other countries are importers of hog and dairy products.

Elaborated foods, such as tinned meats, fish, fruits and vegetables, breakfast cereals, fruit sirups, jams, essences, spices, confectionery, wines, and liquors are imported by all the countries and may be included in the category of manufactured products, of which there

is no essential difference in kind between the imports of one country and any other.

All of these products, viz, industrial raw materials (to which coal for domestic use and fuel oils may be added), elaborated and primary foods and beverages account, on the average, for about 20 per cent of the total imports of all the countries, of which the larger part is represented by the interstate trade in foodstuffs, such as Peruvian sugar to Chile; Argentine and Uruguayan wheat and flour to Brazil; Brazilian coffee to Argentina, Uruguay and Chile; Colombian beef to Panama and Cuba; and Brazilian and Paraguayan mate and fruits to Argentina and Uruguay. The chief food imports, outside of interstate imports, are flour, from the United States into Brazil and the countries to the north of Brazil, and salt fish, from the United States, Canada, and the Scandinavian countries, into all Latin America. Most of the industrial raw materials, a trade in the aggregate not large, are imports from the United States.

About 80 per cent of Latin American imports are finished manufactures derived from the United States and Western Europe, and comprehends textiles, clothing, leather manufactures, furniture, household utensils, office appliances, tools, hardware, machinery, especially the small shop types, agricultural implements, railway supplies, engines, motors, glassware, pottery, electrical apparatus, paper, mining tools, and the like. As has been said above the importation of finished manufactures in kind and qualities is, for all practical purposes, uniform as to all the countries. The variation is in quantity, the smaller and less developed countries importing less and the larger and more developed more of the same kinds of goods. In textiles and clothing there are some slight variations due to climatic differences, the tropical countries taking a smaller proportion of the heavier weaves than Argentina, Uruguay, and Chile, but the variations of trade in this respect are much less than the variations of climate might indicate.

The variations in imports of finished manufactures is almost entirely confined to the class including tools, apparatus, and machinery intended for special industrial uses. Mining machinery and tools have their chief market in Mexico, Peru, Chile, Bolivia, Colombia, Central America, Venezuela, and Ecuador; agricultural machinery in Argentina, Uruguay, Chile, and Brazil. So the countries that produce sugar, especially Cuba, Peru, and Brazil, import sugar-mill machinery, and the coffee and cacao producing countries—Brazil, Ecuador, Colombia, Venezuela, Central America, the Dominican Republic, and Haiti—coffee and cacao cleaning machinery. Argentina, Uruguay, Paraguay, Chile, Brazil, Mexico, and Colombia import machinery for meat packing, and Argentina and some others for butter and cheese making.

DISTRIBUTION OF TRADE—EXPORTS. LATIN AMERICAN EXPORTS TO LEADING COMMERCIAL COUNTRIES.

Countries.	Total to all countries.		United Kingdom.		France.		Germany.		United States.	
	1919	1920	1919	1920	1919	1920	1919	1920	1919	1920
Mexico.....	1 \$185,000,000	1 \$213,000,000	1 \$8,300,000	1 \$7,200,000	1 \$1,800,000	1 \$2,300,000	.....	1 \$720,000	1 \$170,000,000	1 \$195,000,000
Guatemala.....	22,419,134	18,102,806	2 400,000	2 600,000	2 300,000	2 50,000	.....	2 150,000	2 13,500,000	2 14,500,000
Salvador.....	16,745,290	2 250,000,000	159,663	2 180,000	6,181,334	2 2,500,000	.....	2 100,000	8,340,208	2 20,000,000
Honduras.....	5,997,741	6,941,725	437,970	.....	38,716	.....	.....	.....	5,542,465	6,665,675
Nicaragua.....	12,409,473	10,787,345	437,513	306,491	3,324,163	546,044	.....	2 378	7,663,827	9,294,809
Costa Rica.....	17,748,835	14,933,551	6,433,028	3,103,434	147,574	155,497	11,271	32,295	9,812,453	10,615,020
Panama.....	3,757,028	3,592,271	239,764	234,037	1,095	4,097	2,000	32,784	3,492,788	3,210,615
Cuba 1.....	574,372,657	782,551,749	82,521,328	127,020,261	23,041,578	26,584,342	10,425	19,700	439,633,936	642,118,034
Dominican Republic.....	39,601,892	58,731,241	223,352	807,523	4,031,631	3,050,797	.....	326,378	24,040,059	51,113,990
Haiti.....	21,460,045	18,990,032	239,001	318,120	11,249,965	6,531,252	.....	1,400,000	9,546,057	9,963,881
North American Republics.....	\$89,512,095	1,132,393,820	98,954,619	139,789,826	50,345,256	41,752,029	47,663	1,783,535	691,571,793	962,452,024
Per cent of exports.....	100.00	100.00	11.00	12.06	5.59	3.55	0.05	0.15	76.86	83.50
Argentina.....	1,000,036,300	976,396,000	285,413,505	1,283,000,000	110,819,700	178,000,000	9,271,538	117,000,000	183,491,489	1,180,000,000
Bolivia.....	56,255,096	27,737,321	27,737,321	25,000,000	982,569	2 1,000,000	.....	23,237,468	2 26,000,000	2 26,000,000
Brazil.....	566,467,038	385,530,392	41,015,520	30,805,280	120,586,180	44,100,760	2,735,980	24,706,220	234,771,640	159,541,580
Chile.....	115,696,658	288,905,301	26,164,156	60,014,824	5,792,048	11,573,263	43,873	2,730,508	48,551,373	136,174,920
Colombia.....	79,029,656	70,371,746	2 900,000	2 500,000	2 1,000,000	2 1,000,000	2 800,000	2 80,000	2 52,000,000	560,000,000
Ecuador.....	21,005,191	24,181,129	3,532,694	4,000,000	4,173,244	2 3,500,000	.....	2 50,000	10,100,104	15,250,000
Paraguay.....	14,371,633	14,510,400	624,857	1,351,453	1,292,433	1,740,766	14,095	.....	624,357	1,351,453
Peru.....	130,731,191	2 155,000,000	41,024,922	2 45,000,000	1,868,665	2 2,000,000	245,838	2 500,000	60,746,277	2 75,000,000
Uruguay.....	153,181,555	83,981,789	28,168,243	18,505,779	39,011,519	13,306,442	1,453,252	6,166,890	44,022,767	21,017,579
Venezuela.....	49,923,069	32,431,499	5,601,883	14,200,000	10,765,743	1 3,600,000	.....	1 200,000	23,617,815	1 16,500,000
South American Republics.....	2,186,699,987	2,085,508,256	460,183,101	472,377,336	297,092,041	159,823,171	14,564,576	51,433,618	681,443,790	680,835,532
Per cent of exports.....	100.00	100.00	21.04	22.63	13.58	7.62	0.64	2.44	31.15	32.61
Total of the 20 Republics.....	3,086,212,082	3,238,102,076	539,137,720	612,167,162	347,437,297	201,575,200	14,612,239	53,217,153	1,373,015,583	1,643,287,556
Per cent of exports.....	100.00	100.00	18.11	18.90	11.24	6.20	0.45	1.63	44.49	50.74

¹ Estimate in part.

² Estimate.

³ The figure of total exports of Cuba, 1920, is for the calendar year; figures for exports to countries are for the year ending June 30, 1920. Exports to the United States for the fiscal year ending June 30, 1921, were \$337,513,033.

DISTRIBUTION OF TRADE—IMPORTS. LATIN AMERICAN IMPORTS FROM LEADING COMMERCIAL COUNTRIES.

Countries.	Total from all countries.			United Kingdom.			France.			Germany.			United States.		
	1919	1920		1919	1920		1919	1920		1919	1920		1919	1920	
Mexico.....	\$118,354,870	\$178,386,392		\$6,165,026	\$16,345,949		\$2,351,268	\$10,966,266		\$283,677	\$3,481,400		\$100,275,950	\$133,435,163	
Guatemala.....	14,215,865	18,314,463		2,037,305	3,852,337		243,446	1,390,000		.....	120,000		8,083,356	11,740,456	
Salvador.....	14,958,196	18,000,000		1,610,000	2,100,000		232,338	1,300,000		.....	.....		9,063,596	13,200,000	
Honduras.....	6,931,376	12,890,762		1,300,000	1,800,000		130,000	220,058		.....	118,000		16,500,758	11,246,758	
Nicaragua.....	7,912,653	13,864,389		689,721	1,631,624		116,330	220,058		24	145,014		6,687,712	11,247,580	
Costa Rica.....	7,517,989	22,394,997		570,298	3,179,228		73,622	373,908		15,634	3,003,912		5,891,361	11,637,757	
Panama.....	11,406,880	17,161,168		794,140	1,574,543		99,871	417,700		.....	106,829		9,359,486	12,995,409	
Cuba 1.....	359,326,624	524,471,279		8,746,505	13,060,680		9,905,719	13,024,847		197,490	942,377		272,192,940	321,627,449	
Dominican Republic.....	22,019,127	46,525,576		346,217	1,536,556		171,000	657,617		2	428,954		18,113,304	38,848,791	
Haiti.....	17,117,608	27,398,411		551,139	2,286,614		346,461	1,451,700		.....	1,250,000		15,939,529	22,773,762	
North American Republics.....	579,761,188	879,392,737		21,807,356	48,370,531		14,603,555	28,038,996		496,836	\$,394,586		362,183,339	568,773,134	
Per cent of imports.....	100.00	100.00		3.76	5.50		2.51	3.18		0.08	0.95		62.47	64.67	
Argentina.....	636,099,125	828,477,000		149,844,153	3,200,000,000		25,112,231	\$ 43,000,000		1,461,032	\$21,000,000		225,882,346	\$ 322,000,000	
Bolivia.....	24,175,839	123,000,000		4,115,981	15,500,000		362,367	1,400,000		7,029	1,100,000		9,177,146	19,000,000	
Brazil.....	346,907,226	459,939,186		56,041,440	99,670,780		13,137,800	25,823,520		834,080	23,063,640		167,532,860	193,652,140	
Chile.....	146,483,331	166,103,810		28,423,275	42,400,689		6,277,124	10,319,510		255,422	7,692,151		70,026,914	51,198,793	
Colombia.....	48,487,704	94,225,273		1,000,000	14,000,000		1,290,000	12,000,000		1,600,000	11,500,000		1,288,000,000	1,650,000,000	
Ecuador.....	11,607,736	21,035,974		1,591,756	3,800,000		310,623	1,800,000		868	1,900,000		8,171,006	13,500,000	
Paraguay.....	15,360,891	12,724,949		3,793,414	2,527,642		1,378	355,094		9,039	344,748		36,691,223	3,035,690	
Peru.....	59,310,662	185,000,000		7,999,302	18,500,000		743,667	11,000,000		544	1,237,160		15,371,451	15,900,135	
Uruguay.....	43,788,145	50,091,508		7,512,506	8,630,991		1,341,471	2,584,195		54,892	\$ 600,000		25,558,270	\$ 35,000,000	
Venezuela.....	35,903,810	59,589,129		7,418,071	\$ 15,000,000		838,781	\$ 3,600,000		.....	.....		588,243,586	763,676,737	
South American Republics.....	1,368,187,529	1,800,185,829		276,739,931	400,030,112		49,535,442	80,882,649		3,222,813	56,133,699		428,98	42.38	
Per cent of imports.....	100.00	100.00		20.17	22.22		3.58	4.94		0.22	3.11		42.98	42.38	
Total of the 20 Republics.....	1,917,918,717	2,679,579,566		298,547,287	448,400,043		64,138,997	117,921,645		3,719,649	64,528,285		950,428,925	1,332,449,871	
Per cent of imports.....	100.00	100.00		15.30	16.72		3.28	4.36		0.19	2.38		48.79	49.72	

¹ Estimate.² The figure of total imports of Cuba, 1920, is for the calendar year; figures of imports from countries are for the year ending June 30, 1920. Imports from the United States for the year ending June 30, 1921, were \$436,340,682.³ Estimeta in part.

DISTRIBUTION OF TRADE.

Exports.—The United States is the chief market for Latin-American products and has been such for over a generation, with a constantly increasing importance. Great Britain, Germany, and France have been the chief rivals with the United States and, up to about the time of the Civil War, these three countries enjoyed almost a monopoly in Latin-America produce. But owing to the great industrial development of the United States since about 1875, with which the like development of the three rival European countries, great though it was, bears no comparison, the United States became the leading market for raw materials. None of the European countries progressed as did the United States in the 30 or 40 years before 1914, and it was this progress that drew the raw materials of Latin America to its mills. Had German industrial progress been in truth the marvel that Germanophiles claimed for it, Germany, and not the United States, would have absorbed Latin-American exports. The base of German industry, as it was likewise the base of American, was coal and iron. From 1865 to 1913 Germany increased its coal production near tenfold and its iron production twice as much. These figures are impressive in any event, but not quite so much so if we remember that for the period Germany's coal and iron production only kept pace with world's production. From 1865 to 1892 it was a little ahead, but after 1892, a little behind world production.

The marvel of modern industrial progress was that which the world as a whole made in the last quarter of the nineteenth and beginning of the twentieth century. Not alone England, France, and Germany, but also Italy, Austria, Russia, Belgium, India, Japan, and especially Canada and some of the Latin American States made wonderful progress in manufacturing industries. But greater than any other was the progress made by the United States.

Germany increased its production of coal tenfold, but the United States more than twentyfold. Germany increased its iron production 18½ fold, but the United States more than 36½ fold.

Coal and iron production in tons (2,240 pounds).

	Coal.		Iron.	
	United States.	Germany.	United States.	Germany.
1865.....	24,790,000	28,330,000	845,000	975,000
1875.....	48,200,000	48,530,000	2,059,000	2,129,000
1913.....	504,520,000	273,650,000	30,966,000	18,987,000

At the close of the Franco-Prussian War Germany led the United States in population (1870, United States, 38,558,371; 1871, Germany, 41,158,792) and in nearly every line of industry, except agriculture.

Forty-three years later the United States population was 50 per cent greater and its industrial, in particular its manufacturing, output, on the whole, was far more than twice as great. In fact, the manufacturing plants of the United States in 1913 were about equal to the plants of England, Germany, France, Italy, Spain, and the other countries of western Europe taken all together.

It is necessary to appreciate these facts, otherwise there can be no understanding of the position of the United States and of western Europe in the trade of Latin America. It is not sentiment, nor even proximity, much less is it ships, or loans, or banks, or any other of the agencies of commerce that lies at the bottom of the fact that the United States is commercially linked to Latin America in a manner comparable only to the commercial union that exists among the States within its own boundaries. Mexico, Cuba, and at least 10 other Latin American countries are bound with trade bonds to the United States as closely as are Texas, Massachusetts, and Iowa. In fact, the United States consumes now and did consume before the war a larger proportion of the marketable products of 14 Latin American countries than it did or does consume of the marketable products of Iowa or Texas. The reason is that the United States is the one overshadowing market for what Latin America produces, consuming more and paying a better price than any other.

But there is one exception, and that an important one, the United States does not import from Latin America food products of the kind that it itself produces in exportable quantities. It is not a market, nor likely to develop into one for many years to come, for wheat, corn, oats, beef, mutton, and pork. The same basic causes that underlie the fact that the United States is and must be the chief market for industrial raw material and tropical and semitropical foods, such as copper, hides, wool, oil, cane sugar, coffee, and cacao, also underlie the fact that Europe, especially England, is and must be the chief market for bread and meat. Given a population twice as great as it now has, with no corresponding increase in agricultural production, the United States would be a market for overseas bread and meat.

All of this is obvious and need not be dwelt upon, but it is the failure to appreciate the obvious that accounts for most of the truly colossal misunderstandings that are current in the United States (and in Latin America also) respecting trade relations between the two.

Only Argentina, Uruguay, and sometimes Chile produce bread grains in exportable quantities. The same countries are the chief meat exporting countries, although Brazil, Paraguay, Colombia, and some others are becoming such.

The exports of the two chief bread and meat exporting countries, Argentina and Uruguay, in 1920 valued \$1,060,578,000. About 60

per cent of this amount was represented by food, wheat, barley, rye, oats, flour, beans, beef, mutton, pork, bacon, cheese, and butter, and about 40 per cent by other exports, chiefly industrial raw material, wool, hides, skins, horns, hair, tankage, casings, casein, linseed, cotton seed, wine lees, quebracho, and mining products. Of the first group the United States took only about $3\frac{1}{2}$ per cent, that is approximately \$20,000,000 out of \$600,000,000. Europe, chiefly England, took nearly all the remainder.

But the story is very different as to the second group amounting to \$400,000,000. Here the United States took near one-half. Take, for example, cattle and sheep products. In 1920 the export from Argentina of frozen beef was 4,549,679 quarters, of which England took 2,886,311 quarters, France 602,735, and the United States 113,286. Chilled beef, total 629,213 quarters, England 619,390, United States 1,445. Frozen mutton, total 1,193,863, England 1,120,143, United States 19,636.

Compare these figures with the industrial products of the same animals.

	Total.	United States.	England.	Germany.
Cattle hides, dry.....number...	902,160	466,268	86,617	43,994
Cattle hides, salt.....do....	2,129,879	1,494,955	238,298	116,791
Calf skins.....do....	205,471	191,423	.....	6,005
Sheep skins.....tons...	11,083	2,363	968	217
Wool.....do....	97,730	32,311	13,603	13,047
Hair.....do....	2,292	1,162	588	50

This fact runs throughout the whole of Latin American export trade, viz, that Europe takes the bread and meat and the United States the industrial products, including the by-products of the agricultural and grazing industries.

The proportion of all Latin America exports taken by the United States in 1920 was a little over one-half, the other half being interstate and exports to Europe. The United States share of the exports of the northern group of States, Mexico, Central America, Cuba, Dominican Republic, and Haiti, was 83.50 per cent, and of the southern group, South America, only 32.61 per cent.

Latin American exports—1920, percentages.

	United States.	United Kingdom.	France.	Germany.
All Latin America.....	50.74	18.90	6.20	1.63
Northern group.....	83.50	12.06	3.55	0.15
South America.....	32.61	22.63	7.62	2.44

NOTE.—The German trade is by half or more an estimate. Exports to Germany direct were less than the estimates, but this fact is offset by indirect exports via England, Holland, and the Scandinavian countries.

The difference in percentages of exports to the United States between the northern and southern groups is due in some measure to relative proximities and older and better established trade relations with the northern group. Of equal consequence is the fact that the number of United States citizens in the northern group exceeds many times the number in South America. But chiefly the difference in percentages is due to the fact that the exports of the northern group are all industrial raw materials and tropical foods while those of some of the principal exporting countries of South America, especially of Argentina and Uruguay, are Temperate Zone grains and meat products, which have their logical market in Europe.

Imports.—The same cause that made the United States preponderant in Latin American export trade made it also the chief source from which Latin American imports came. The enormous increase in industrial enterprises in the United States, especially in manufacturing, in the twentieth century and the last two or three decades of the nineteenth, irresistibly drew the raw materials of Latin America to the United States and it was this increase in manufacturing, far outstripping Europe, that made the United States likewise preponderant in supplying Latin American needs for manufactures. But the two events did not synchronize. Preponderance in Latin American export trade was attained 30 years or more before the United States went to the front on the Latin American import side. In fact, it had only just reached the premier position a year before the outbreak of the war, i. e., in 1913. That year it passed Great Britain. It had passed Germany and France many years before. Not only did the two preponderances not synchronize but the one was not the cause, nor in the initial stages in any marked degree, the provocation, of the other. Both grew out of the increase in manufacturing industries in the United States responsive to the domestic wants and needs of the United States itself. In fact, it was the constantly progressing standard of living, especially in the consumption of manufactures, that created manufacture and thus drew the rubber, hides, metal, and other raw materials to the American mills. It was the same progressing standard that drew the increased supplies of sugar, coffee, cacao, and bananas.

American manufacturing industry was the creature of domestic demands. So was British, German, French, and all other. Exporting is an afterthought, and importing raw materials for the sole or chief purpose of exporting the same as finished manufactures a yet later thought. Europe arrived at both stages sooner than the United States. Sooner, not because of greater enterprise, foresight, or commercial acumen, but because the domestic needs of Europe

were sooner supplied and export became a necessity there earlier than here.

No country has ever attained the position of entire self-sufficiency in all lines of manufacture. The United States has covered the broadest field, but half the industries of the United States (half in number, not half in volume of output) have passed the point where they more than supply domestic demands. Many fall below and others are practically nonexistent. For these there is no real basis for exporting. It is money and effort wasted to seek out the Latin American or other foreign field when the United States continues to absorb large quantities of identical manufactures from England, France, or Germany. Especially is this true in cases where the United States tariff rates represent a considerable augmentation—as almost without exception they do—in the cost to the consumer in the United States. Upon what basis can an American manufacturer expect to compete in Argentina or China on equal terms with the European, when at home he can not compete except he be sheltered by a high tariff rate? Or, to give another phase, why should he seek out a foreign market at a lower price when the home market at a higher price is unsatisfied?

Great Britain, and next France and Germany, prior to the war, had more nearly attained self-sufficiency, *i. e.*, they had a larger proportion of industries that had passed the point of domestic saturation. Many of the modern industries of Great Britain have been on an exporting basis for more than a century, but few American industries had attained this point much before the opening of the twentieth century. This accounts for the fact of the overwhelming preponderance of raw materials and foodstuffs in the exports of the United States up to about 20 years ago.

Even yet this class is large, but the proportion of finished manufactures increases as, one after the other, the manufacturing industries of the United States attain the position of ability to supply in an adequate manner the home demand, and consequently naturally and wisely turn to the foreign field.

The proportion of finished manufactures in the total exports of the United States prior to 1900 was small, but in its exports to Latin America the proportion was not small, nor had it been for 20 years or more. In 1900 finished manufactures represented the bulk of the trade and the proportion has constantly increased since.

Figures of imports for all the Latin American countries by countries of origin are not available prior to 1910, at which date the Pan American Union began the compilation. The incomplete statistics available prior to this date cover the principal countries and the

greater bulk of the trade and show that in 1900 the imports from Great Britain were about equal to the imports from the United States and Germany combined, which last two countries were on about an even footing. From 1900 to 1910 the United States gained rapidly, leaving Germany behind and challenging the premier position of Great Britain. In 1913 it passed Great Britain and has remained in the lead ever since.

Latin-American imports, 1910-1920.

Year.	Total.	From Great Britain.	From United States.	From Ger- many.	From France.
		<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>
1910.	\$1,058,660,249	26.02	23.50	15.55	8.35
1911.	1,159,490,516	25.73	23.79	16.72	8.25
1912.	1,242,512,578	24.84	24.50	16.67	8.32
1913.	1,321,861,199	24.42	25.03	16.55	8.32
1914.	907,841,133	23.92	27.94	14.62	6.64
1915.	809,925,700	20.51	42.15	-----	4.65
1916.	1,040,662,174	17.88	51.77	-----	4.45
1917.	1,367,211,849	14.89	54.79	-----	3.70
1918.	1,494,131,101	16.86	49.48	-----	3.71
1919.	1,947,948,717	15.30	48.79	0.15	3.28
1920.	2,679,579,566	16.72	49.72	2.38	4.36

These figures are for the imports of all Latin America. The commercial influence of the United States was and is yet much greater in the northern tier of countries than in South America. Even prior to 1890, imports into Mexico, Cuba, and Central America were almost uniformly greater from the United States than from Great Britain. In 1910 the proportions for the northern group were: United States, 54.91 per cent; Great Britain, 12.61 per cent; Germany, 8.61 per cent; France, 6.50 per cent; and of the southern group (South America), United States, 13.89 per cent; Great Britain, 30.11 per cent; Germany, 17.67 per cent; France, 8.91 per cent.

Prior to 1890 imports into South America from the United States were chiefly raw materials, lumber, coal oil, turpentine, flour (to Brazil mainly). The proportion of finished manufactures was small. Raw materials likewise formed a large part of the imports from the United States of the northern group of States. In 1900 the proportion of finished manufactures had increased all around and in 1910 represented the greater part of imports from the United States, even in South America. But up to the beginning of the war South America imported more from both Great Britain and Germany than from the United States. In 1913 the proportions were: Great Britain, 27.98 per cent; Germany, 18.51 per cent; United States, 16.41 per cent; France, 8.77 per cent. The next year, 1914 (the war began in August), the United States passed Germany, and in 1915 it passed Great Britain. The war hastened both events, the passing of Ger-

many by perhaps 3 or 4 years and of Great Britain by perhaps 20 years, but it was inevitable that war or no war the United States would go to the front in the imports of South America just as it had gone to the front in 1913 in the imports of all Latin America.

Latin-American imports by groups, 1910-1920, percentages.

Year.	From Great Britain.		From United States.		From Germany.		From France.	
	Northern.	Southern.	Northern.	Southern.	Northern.	Southern.	Northern.	Southern.
1910.....	12.61	30.11	54.91	13.89	8.61	17.67	6.50	8.91
1911.....	13.31	29.55	53.65	14.62	10.27	18.73	6.67	8.74
1912.....	13.48	28.27	53.58	15.97	10.27	18.65	6.86	8.74
1913.....	12.33	27.98	54.11	16.41	9.92	18.51	6.77	8.77
1914.....	11.87	28.60	54.56	17.60	8.77	16.88	5.50	7.09
1915.....	11.17	25.72	64.69	29.99	.....	.....	4.61	4.95
1916.....	8.72	23.61	73.78	38.23	.....	.....	3.28	5.17
1917.....	6.15	19.44	75.77	43.85	.....	.....	2.21	4.48
1918.....	4.51	22.10	77.37	37.65	.....	.....	2.20	4.35
1919.....	3.76	20.17	62.47	42.98	0.08	0.22	2.51	3.58
1920.....	5.50	22.22	64.67	42.38	0.95	3.11	3.18	4.94



PAN AMERICAN CONGRESS OF STUDENTS

By FREDERICK J. GILLIS.¹

IN connection with the official celebration of the first centenary of the Independence of Central America, a Pan American Congress of university students was held in Guatemala City, in the Republic of Central America, from the tenth to the twentieth of September, 1921. This congress was held under the auspices of the



Photograph by Frederick J. Gillis.

GENERAL VIEW OF THE CITY OF GUATEMALA.

Consejo Federal de Estudiantes Universitarios Centroamericanos, the Guatemalan Government graciously acting as hosts to the students attending.

The purpose of the congress was to consider the future problems of America, problems which will be settled by the men who, today, are students. Several special topics were assigned to individual members for presentation, and their views as to the general methods of enforcing or bringing about the desired result were then discussed in open meetings of the congress. Among the subjects discussed were the following:

¹ School of Commerce, Georgetown University, Washington, D. C.

(a) Means of making effective the League of Pan American Students.

(b) The League of Students and its position with reference to Interamerican politics.

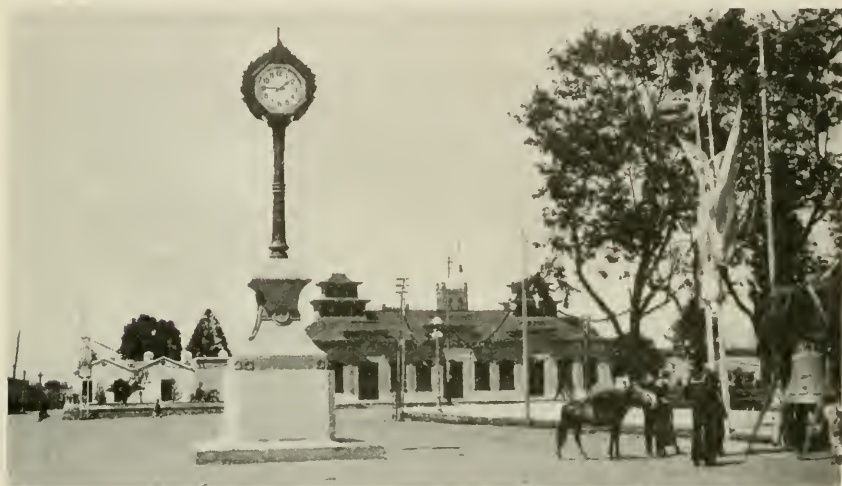
(c) The student as a factor in social evolution.

(d) Student representation in the directing body of university faculties.

(e) The adoption of a universal university system for all the Americas.

(f) The standardization of university programs.

In order that the students might have a suitable place for their meetings, the Chinese colony of Guatamela built and placed at their



Photograph by Frederick J. Gillis.

A PLAZA IN GUATEMALA CITY.

Clock tower presented by the Mexican colony in honor of the centenary of Central American Independence. At the right is seen the bell struck in commemoration of the centennial, on which busts of the national heroes stand in relief. In the background is the building wherein were held the meetings of the Congress of Students, and which was erected especially for this purpose.

disposal a very commodious edifice, the architecture and interior of which were in keeping with the purpose for which it was constructed.

Representatives from Mexico, San Salvador, Honduras, Guatemala, and the United States were in attendance, and the congress was formally opened Saturday, September 9, by President Herrera at the Rex Theater, the cabinet ministers, student delegates, and student executive council being seated on the stage, while the body of the theater was fairly packed with the students and their friends. After the formal address of welcome by the Guatemalan representative, responses in the form of greetings were delivered by delegates from

the different countries represented, the writer responding for the United States. Sessions were then held daily till the twentieth.

The discussions set forth clearly the student view on the questions of the day. Ways and means of promoting communication between the student organizations of the different countries of the Americas were discussed and plans for establishing branch offices of the Federation in Asunción, Paraguay and in Mexico City, Mexico, were formulated, these branch offices to be in charge of a paid secretary who will devote full time to the interests of the students.

The Federation of Students of Mexico, as well as the Federation of Students of Central America, provide their members with identification cards which accord the bearers special privileges in the press, stores, and society in general of the respective countries. The members of the Federation of Mexico also enjoy a 50 per cent discount on the Mexican railroads and one in the stores which varies from 10 to 50 per cent. The Federation of both Mexico and Central America now aim to make these benefits mutually interchangeable. The Mexican delegation, moreover, has offered the Federation of Central America ten scholarships in Mexican institutions to be awarded at the discretion of the Federation. But the most immediate benefit from this congress will be that resulting from the interchange of ideas, the associations enjoyed and the acquaintances formed by the students who took part therein.

The Georgetown School of Foreign Service represented the United States at this congress in the persons of Raymond C. Miller, of Indiana, and the writer, of Boston. After the congress adjourned these two delegates were enabled, through the kindness of the Guatemalan Government, to make an extensive trip on horseback through the coffee, sugar, and cattle country of the west coast, to explore the ruins at Quiriguá, and to enjoy a motor boat trip through the unusual natural beauty of the Río Dulce. As a result, these two delegates have but one criticism, and that is, that the Guatemalans do not sufficiently advertise their wonderful climate and beautiful scenery, for were the attractions of Guatemala better known, it would surely become a mecca for tourists.





Photograph by Harris & Ewing.

HONORABLE WILLIS C. COOK.

Envoy Extraordinary and Minister Plenipotentiary of the United States to Venezuela.



Photograph by Harris & Ewing.

HONORABLE JOHN GLOVER SOUTH, M. D.

Envoy Extraordinary and Minister Plenipotentiary of the United States to Panama.



Photograph by Harris & Ewing.

HONORABLE ROY TASCO DAVIS, Ph. B.

Envoy Extraordinary and Minister Plenipotentiary of the United States to Guatemala.



Photograph by Keystone View Co.

HONORABLE JOHN E. RAMER.

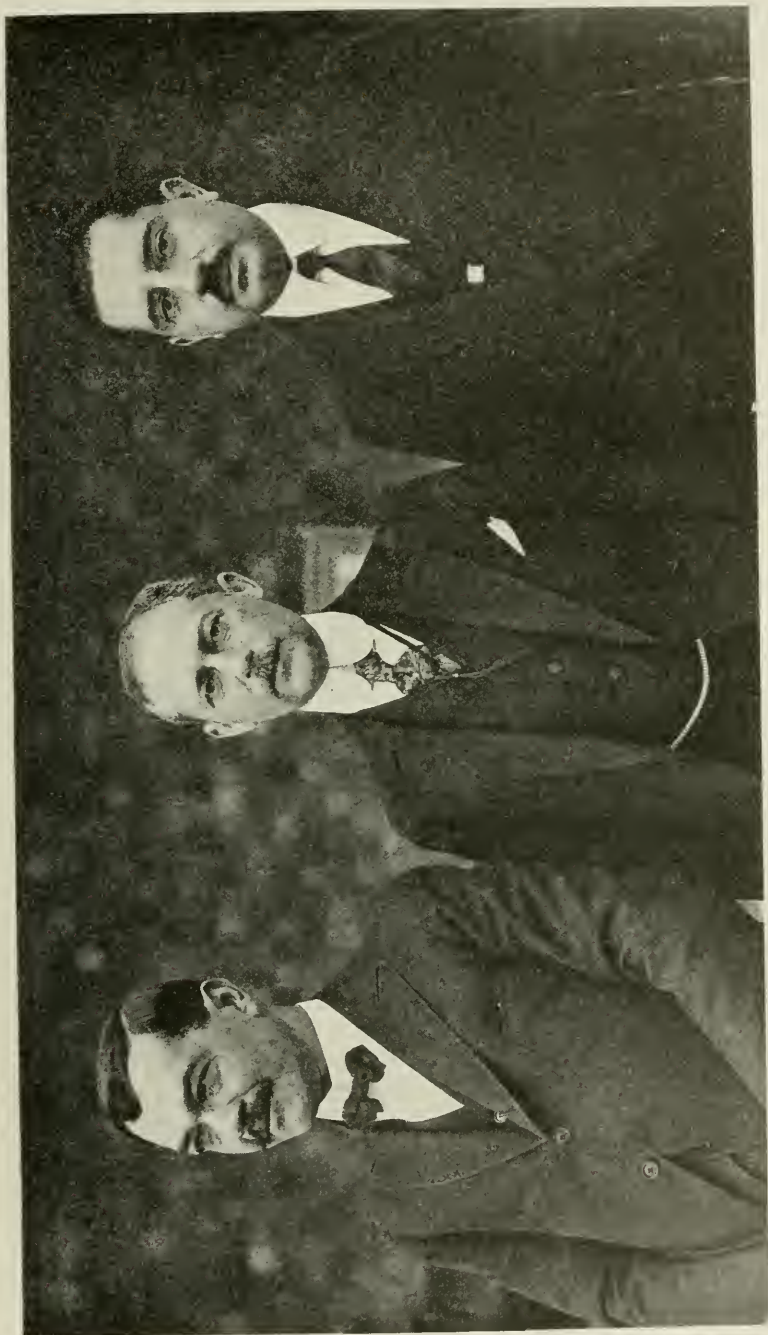
Envoy Extraordinary and Minister Plenipotentiary of the United States to Nicaragua.



Photograph by Harris & Ewing.

HONORABLE JESSE S. COTTRELL.

Envoy Extraordinary and Minister Plenipotentiary of the United States to Bolivia.



Photograph by Underwood & Underwood.

SPECIAL COMMISSION IN WASHINGTON FROM THE RECENTLY FORMED UNITED STATES OF CENTRAL AMERICA.

Left to right: Dr. Vicente M. Colindres, of Honduras, Dr. Jose Matos, of Guatemala, and Dr. Francisco Lima, of Salvador.

AGRICULTURE, INDUSTRY AND COMMERCE

Treat a South American with courtesy, state the truth about what you have to sell, deliver when you promise, deliver what you promise and pack it for shipment so that it can stand the transshipping, lightering, etc., and, when the South American is satisfied that he is being treated honorably, you will have a staunch lifelong friend.—*Industrial Canada*, Toronto, October, 1921.

ARGENTINA.

PRINCIPAL EXPORTS.—The principal exports from Argentina from January 1 to September 29, 1921, were as follows:

Wheat.....	tons..	1,563,401	Salt oxhides.....	1,616,057
Maize.....	do....	2,164,690	Horsehides	52,849
Linseed.....	do....	1,028,280	Sheepskins	bales.. 16,474
Oats.....	do....	355,849	Goatskins	do.... 2,762
Barley.....	do....	45,742	Wool.....	do.... 252,031
Flour.....	do....	36,711	Hair.....	do.... 2,861
Wheat products.....	do....	112,404	Tallow.....	pipes.. 130
Quebracho logs.....	do....	5,952	Do.....	casks.. 86,794
Quebracho extract.....	do....	91,055	Do.....	hogsheads.. 1,215
Butter.....	cases..	608,302	Frozen beef.....	quarters.. 2,511,540
Hay and alfalfa.....	bales..	175,907	Chilled beef.....	do.... 1,098,501
Caliskins		167,037	Frozen mutton.....	carcasses.. 1,840,441
Dry oxhides.....		677,667	Frozen lamb.....	do.... 757,914

Average weights.—1 bale of wool, 420 kilos; 1 bale of sheepskins, 400 kilos; 1 bale of hair, 400 kilos; 1 bale of goatskins, 370 kilos; 1 bale of hay, 50 kilos; 1 pipe of tallow, 400 kilos; 1 hogshhead of tallow, 200 kilos; 1 cask of tallow, 160 kilos; 1 case of butter, 25 kilos.

MAIL RECORD.—Mail carried by the *S. S. American Legion* on its trip the middle of September was distributed in Buenos Aires 15 days after leaving New York—the quickest delivery on record to that time.

NEW EXPORTS.—Oranges have been successfully shipped from Buenos Aires to New York, and it is now being planned to attempt shipments of grapes on a large scale. Argentine eggs have also been sent to the United States, and turkeys, partridges, and other game birds have likewise found a good market. It is thought that all these lines may be further developed. The export of butter in the first nine months of 1921 very considerably exceeded the amount exported in the same period of 1920, the respective figures being 608,302 cases of 25 kilos against 400,297 cases. This year the major portion, 509,503 cases, went to the United Kingdom, while Italy took 49,285 cases.

LIVE STOCK.—Statistics published by the Bureau of Commerce and Industry state the number of head of live stock in the country as follows: Cattle, 27,000,050; sheep, 44,850,000; and goats, 4,410,000.

PUBLIC WORKS IN ENTRE RÍOS.—An official report of the public works completed and under way in the Province of Entre Ríos from January 1 to August 31, 1921, states that the total expenditure in that period for school buildings, commissariats, roads, bridges, repairs to public buildings, etc., was 1,458,026.84 pesos.

BOLIVIA.

BOLIVIAN OIL FIELD.—A Bolivian oil field of 5,320,000 acres in the Santa Cruz district has been purchased and will be developed by American capital.

GOLD EXPORT.—On September 15, 1921, a decree was issued stating that gold exportation either in ore, dust, nuggets, or ingots would be taxed 20 centavos per ounce in accordance with article 5 of the law of October 8, 1872, thus rendering ineffective article 7 of the decree of February 27, 1918.

BRAZIL.

THE LLOYD BRASILEIRO REMOVED TO SANTOS.—It has been decided by the governing board of the Lloyd Brasileiro to transfer the company's head office to Santos. With this end in view, orders have been issued for the establishment of shops in that city for the execution of urgent repairs, as well as a coaling station and deposit of supplies.

GERMAN SHIPPING.—The German steamship company Hamburg Sudamerikanische Dampfschiffahrts Gesellschaft will soon resume its regular passenger service between Hamburg, Brazil, and the River Plate, touching at Boulogne, Vigo, and Lisbon. For this purpose the company has acquired the large steamer de luxe *Cap Polonio*, the construction of which was finished during the war, and which, according to the terms of the peace treaty, had been turned over to the Allies. The steamer is being thoroughly overhauled and adapted for the burning of oil as fuel. Another steamer now ready to be placed in the service is the *Antonio Delfino*, which like the *Cap Polonio* is quite new and equipped in the most up-to-date fashion. Other steamers are expected to be available shortly.

WIRELESS STATIONS.—The Ministry of Ways and Communications has rectified certain clauses of the instructions issued with Decree No. 14712 of March 7, 1921, granting permission to the Companhia Radiotelegraphica Brasileira to install and operate ultrapowerful wireless stations.

According to the rectification, the grantee engages to establish the first two stations in the cities of Río de Janeiro and Belém do Pará, it being expressly understood that none but Brazilian operators are to be employed.

COTTON TEXTILES.—The Centro Industrial de Fiação e Tecelagem gives the following data bearing on cotton factories operating in Brazil during the second half of the current year: Two hundred and forty-two cotton spinning and weaving plants, distributed as follows — 10 in Alagoas, 17 in Bahia, 9 in Ceará, 14 in the Federal District, 2 in Espírito Santo, 16 in Maranhão, 60 in Minas Geraes, 1 in Parahyba, 7 in Paraná, 8 in Pernambuco, 1 in Piahy, 1 in Rio Grande do Norte, 4 in Rio Grande do Sul, 23 in the state of Rio de Janeiro, 55 in São Paulo, 8 in Sergipe, and 6 in Santa Catharina. The capital invested in cotton factories throughout the country amounts to 337,700,000 milreis, and for those situated in the Federal District to 82,000,000 milreis. The total number of spindles was 1,512,300, distributed as follows: Alagoas, 43,000; Bahia, 140,000; Ceará, 24,000; Federal District, 411,000; Espírito Santo, 2,590; Maranhão, 80,000; Minas Geraes, 130,000; Parahyba, 10,000; Paraná, 1,200; Pernambuco, 94,000; Piahy, 2,500; Rio Grande do Norte, 5,000; Rio Grande do Sul, 27,000; Rio de Janeiro, 27,000; São Paulo, 415,000; and Santa Catharina, 2,100.

The number of looms reached 97,000 for the whole of Brazil, thus distributed: Alagoas, 1,700; Bahia, 6,000; Ceará, 600; Federal District, 13,000; Espírito Santo, 120; Maranhão, 2,300; Minas Geraes, 5,800; Parahyba, 420; Paraná, 45; Pernambuco, 3,300; Piahy, 160; Rio Grande do Sul, 900; Rio de Janeiro, 6,000; São Paulo, 14,000; Santa Catharina, 103; and Sergipe, 1,900.

The average value of the production for the last two years, a time of excessive depression, was distributed among the producing centers as follows: Bahia, 32,000,000 milreis; Alagoas, 16,000,000 milreis; Ceará, 3,000,000 milreis; Federal District, 104,000,000 milreis; Espírito Santo, 1,000,000 milreis; Maranhão, 1,000,000 milreis; Minas Geraes, 95,000,000 milreis; Parahyba, 1,300,000 milreis; Pernambuco, 21,000,000 milreis; Piahy, 1,200,000 milreis; Rio Grande do Norte, 400,000 milreis; Rio Grande do Sul, 9,000,000 milreis; Rio de Janeiro, 45,000,000 milreis; Santa Catharina, 9,000,000 milreis; São Paulo, 92,000,000 milreis; and Sergipe, 12,000,000 milreis.

The total quantity of raw cotton on hand in the different factories of Brazil was 7,380,000 kilos.

BRAZILIAN COFFEE MISSION.—A Brazilian coffee mission, composed of two Brazilian and one American officer of the Chamber of Commerce of Santos, the famous coffee port, came to the United States last fall to attend the 1921 National Coffee Convention and to negotiate a better commercial understanding between Brazilian and American coffee dealers, as suggested by the commercial attaché of the Brazilian Embassy at Washington. The mission visited New York, Washington, New Orleans, the second coffee port of the United States, and the two greatest distributing centers, St. Louis and

Chicago. It should be remembered that the State of São Paulo alone exports more than two-thirds of all the world's coffee.

NEW TELEGRAPH LINE.—For the telegraph line to be constructed from Iguacu Falls, Catandubas, to Porto Mendes a credit of 80,000 milreis has been allotted to the Minister of Public Works.

FOREIGN TRADE.—According to data published by the Board of Commercial Statistics for the first seven months of the current year, the total of Brazilian exports amounted to 1,075,986 tons, valued at 886,754,000 milreis, as compared with 1,178,295 tons, valued at 1,077,496,000 milreis, in the corresponding period of 1920.

The importations for the period from January to July, inclusive, amounted to 1,582,324 tons, valued at 1,163,753,000 milreis, in comparison with 1,814,699 tons, valued at 902,157,000 milreis in 1920.

CHILE.

NITRATE SETTLEMENT.—On October 11, 1921, an agreement was reached between the representatives of the Association of Nitrate Producers, the "Pool" of European buyers, and also other buyers. The *Mercurio de Santiago* on October 12 states that this agreement, which was ratified on October 27 by the Association of Nitrate Producers, provides:

Selling prices are modified as follows: October, 1921, 10s. 6d. per quintal; November, 1921, to April, 1922, inclusive, 11s.; May, 1922, 10s. 9d.; June, 1922, 10s. 3d. (For the former scale see the *BULLETIN* for November and October, 1921.)

The association will pay the buyers the following compensation:

(a) For all new nitrate sold for delivery between October 1, 1921, and March 31, 1922, and loaded aboard ship before the latter date, 20d. per Spanish quintal.

(b) For all new nitrate sold for delivery between April 1 and June 30, 1922, and loaded aboard ship before the latter date, 12d. per Spanish quintal.

(c) For all new nitrate sold for delivery between July 1, 1922, and June 30, 1923, and loaded aboard ship before the latter date, 4d. per Spanish quintal.

The total compensations provided for above shall be distributed among all the buyers in the proportion and form determined by the President of the Republic.

The association guarantees the buyers for these indemnities a minimum of £1,500,000, and if payment of said amount shall not have been completed by June 30, 1923, the association will continue paying the buyers 4d. per Spanish quintal until the sum is complete.

If the association should decide to sell nitrate on consignment the prices fixed above will apply until June 30, 1922.

The contracting parties agree that any difficulty which may arise in the fulfillment of the above agreement shall be submitted to the President of the Republic as arbitrator.

The president of the association announced that the buyers to benefit by the arrangement would be those who have bought nitrate from the association since June 1, 1920, and that nitrate sold for Chilean use had been exempted from the scale of prices.

Assistance to Nitrate Producers.—See page 81.

RAILWAY ELECTRIFICATION.—On September 26, 1921, the President signed the final decree accepting the proposal of the Westinghouse Electric Co. for the electrification of the first zone of the central railways—that is, the line between Valparaíso and Santiago—a distance of 190 kilometers. The total value of the work will be \$6,290,808.84 and 2,319,707.56 pesos national currency. The German bid was considerably higher. The question of electrification has been considered for 11 years, and it is thought that this step will not only make possible better service for the public but that it will represent an annual saving of 10,000,000 pesos, according to the estimate of a writer in the *Anales del Instituto de Ingenieros*. The power will be furnished by the *Compañía Nacional de Fuerza Eléctrica*.

RAILWAY EQUIPMENT.—Freight and passenger cars and 20 broad-gauge locomotives have been purchased by the Government from four American firms. The total value is between \$3,000,000 and \$4,000,000. Thirty-five firms of many nationalities competed for this order.

RAILWAY CONGRESS.—The first Chilean railway congress met in September, 1921, in Santiago. More than 200 were in attendance. The congress was divided into the following sections: Transport and roadbed; traction and repair shops; law and personnel; pensions and social welfare; supplies and warehouses; and accounting and statistics. Members of the congress inspected a train composed of an engine refitted in Chile, and of a parlor car, a car for the railroad sanitary service, second and third class coaches, baggage and freight cars, and a caboose, all made either in the railroad shops or a Chilean factory. One of the resolutions adopted proposed the establishment by the Government railroads of a railway institute to prepare those desirous of entering the work and fitting employees for promotion; to advance general culture through lectures, libraries, and special reviews, and also to further social relations and sport.

CALIFORNIA FRUIT.—A shipment to Chile of 14 boxes of California pears, apples, cherries, grapes, and melons was received in excellent condition. As will be recalled by BULLETIN readers, Chilean fruit was successfully shipped to New York last winter, so that an interchange of fruit between the two countries now seems assured.

RAILROAD.—The railroad from Curacautín to Púa, 38 kilometers in length, was opened last fall. Although short, this section is important because it unites the inland railroads with the main line.

COLOMBIA.

SULPHATE OF SODA.—In the municipality of Paipa, Department of Boyacá, there are springs whose water contains sulphate of soda and other chemical constituents in the following quantities per liter: Dry chloride of sodium, 11 grams; dry carbonate of sodium, 66 grams; dry sulphate of sodium, 32.4 grams; total 50 grams. Thirty-five thousand five hundred and ninety-four liters of water are obtained every 24 hours. The analysis shows that in composition it is similar to the water of Carlsbad, but of a much greater mineral content. In 1920, 21,250 kilograms of sulphate of soda were obtained from these springs.

RIVER AND HARBOR WORKS.—The Council of Ministers has approved the contract between the Minister of Public Works and the manager of the Colombian Co. of Bocas de Ceniza. The company will open a channel through the bar known as the Bocas de Ceniza at the mouth of the Magdalena River, and construct a port for ocean steamers at Barranquilla.

COSTA RICA.

NEW INDUSTRY.—A factory making sewer pipes has lately been opened in San José.

CUSTOMS REVENUE.—La Gaceta of September 8, 1921, states the total income derived from custom duties during the first six months of the current year as follows: San José, 1,930,911.85 colones; Limón, 1,029,690.99 colones; Puntarenas, 380,749.64 colones; Sixaola, 145,808.16 colones; total, 3,487,160.64 colones, an advance of 388,783.69 colones over receipts for the same period in 1920.

REFORESTATION.—There is a strong movement toward the reforestation of the Republic. The Minister of Promotion has distributed thousands of young cedar trees to be planted throughout the country either as hedges, as shade for coffee plantations, in pastures, or as forests. Cedar and fruit tree seeds are also being sown by school children, the small trees to be distributed to the people of the vicinity. The town of Tres Ríos planted a Centenary cedar.

PUBLIC WORKS IN PUNTARENAS PROVINCE.—The municipality of Montes de Oro will construct two new roads, those of Esparta canton will be repaired, a concrete wharf will be built in the Chomes district and a prison erected in Esparta. The civic authorities of the places in question are authorized to contract loans for the purpose, guaranteed by an additional 10 centavo tax on each liter of spirituous liquor sold during the next 5 years for consumption in the Puntarenas Province.

PETROLEUM CONCESSION.—The Government has granted to a Costa Rican company 10,000 hectares in Guanacaste Province for the exploration and exploitation of petroleum and other hydrocarbons.

CUBA.

CONSULAR VISÉ.—Bills of lading for less than \$5 will henceforth not need a consular visé in the case of goods sent to Cuba, according to information recently issued by the Cuban consul general in New York.

ECONOMIC CONDITIONS.—According to a recent number of the Commerce Reports, the stock of sugar left from the 1919-20 harvest has been sold, while in September, 1921, 1,400,000 tons, a third of the 1920-21 harvest, were still on hand. The 1922 harvest is estimated at from 2,250,000 to 3,000,000 tons, a considerable decrease from the production of 1921.

The Government has adopted a policy of strict economy, and has requested the cooperation of all the commercial enterprises of the island in carrying it out. In his message to Congress in September, 1921, the President recommended the following subjects to be taken up in the extraordinary sessions: (1) Readjustment of the budget; (2) laws in aid of agriculturalists, especially to regulate loans against future harvests; and (3) other loans.

NEW LINE OF STEAMERS.—The Canadian Pacific Railway Co. has decided to establish a line of freight and passenger steamers between Canada and Habana. The line will run between St. John's, Boston, Nassau, Habana, and Kingston.

FREIGHT ON CORN AND OATS.—The Ward Line and the United Fruit Co. have reduced the rates on corn and oats between the United States and Habana. The rate is now \$0.25 per 100 pounds of corn and \$0.30 per 100 pounds of oats, including expenses of delivery.

NEW MARKET.—A large modern market was recently opened in the Atarés district of Habana. The building has two floors and is constructed of reinforced concrete, granite, and marble. On the lower floor are the aisles for the sale of vegetables, cereals, foodstuffs, clothing, leather goods, and other merchandise. There are also cafés, restaurants, and a branch of an important bank. On the upper floor are the booths for the sale of poultry, stands for the sale of meat, and marble tables for fish markets. Each place in the market has running water and electric lights, and everything is arranged in a hygienic and sanitary manner. The patio has two wide entrances for trucks.

There are six elevators for merchandise, and four for the public. A large refrigerator has been installed for the use of market venders. The cellar will also be used for storing fruit and vegetables over night. The company which erected the market has a capital of \$5,500,000.

FOODSTUFFS.—The Department of Agriculture, Commerce, and Labor has published the following figures regarding articles of food imported by Cuba during the eight months ending August 31, 1921: Hams and shoulders, 314,698 pounds, valued at \$112,674; lard, 50,222,973 pounds, valued at \$7,091,874; eggs, 10,597,796 dozen, valued at \$3,509,181; bacon, 20,020,210 pounds, valued at \$2,913,921; butter, 485,171 pounds, valued at \$211,325; cheese, 1,200,387 pounds, valued at \$383,178; condensed, evaporated, and other forms of milk, 23,245,341 pounds, valued at \$4,246,549; cottonseed oil, 5,170,004 pounds, valued at \$1,455,473; wheat flour, 706,640 sacks, valued at \$6,355,582; salt pork, 1,074,732 pounds, valued at \$180,608; and butter substitutes, 5,990,313 pounds, valued at \$728,628.

DOMINICAN REPUBLIC.

BRIDGE OPENED.—At the opening of the bridge across the Yaque del Sur River the towns of San Juan de la Maguana and Azua laid a commemorative tablet marking their cooperative efforts in building the bridge.

THIRTY THOUSAND DOLLAR ROAD.—The Compañía de Explotaciones Industriales de Santo Domingo is to spend \$30,000 to build a new road from Santo Domingo to Baní by way of San Cristóbal and Yaguatae.

GERMAN MARKET FOR CACAO.—A Bremen firm has written to a firm in Sánchez stating that Germany is again anxious to make purchases. Germany is the next largest market to the United States for cacao and prices have improved. The cacao planters and the German firm are anxious to surpass the development of this market before the war.

ECUADOR.

ECUADORIAN MAGAZINE.—The consulate general of Ecuador in New York City has begun the publication of a magazine called "The Republic of Ecuador," which is of interest to those concerned in trade with that country.

ELECTRIC LIGHT AND POWER.—Vinces canton will build an electric light and power plant at an approximate cost of 60,000 sucres.

IMPORTS AND EXPORTS.—According to a statement of the director of customhouse statistics, imports and exports for 1919 and 1920 were as follows:

Year.	Imports.		Exports.	
	Weight.	Value.	Weight.	Value.
1919.....	<i>Kilos.</i> 36,150,458	<i>Sucres.</i> 24,007,688	<i>Kilos.</i> 78,984,858	<i>Sucres.</i> 43,220,558
1920.....	47,692,537	43,283,896	82,342,663	49,755,410

The duties collected on imports for the first six months of 1921 amounted to 4,053,650.56 sucres, and those on exports to 1,972,599.62 sucres.

MEXICO.

MAILS AND TELEGRAPHS.—The Post Office Department increased its facilities in the year September 1, 1920–September 1, 1921. There were in service 580 main post offices, 35 branch offices, and 2,128 postal agencies and 6,337 employees. During the period mentioned 101,711,571 pieces of mail were handled, 15,967,445 pieces being sent outside the country and 29,618,628 being received from abroad.

Telegraph messages numbered 5,735,670, with a total of 126,126,490 words. Collections of money on telegrams amounted to 5,536,205.75 pesos, an increase of 33.11 per cent, while the expenditures amounted to 5,050,722 pesos, leaving a favorable balance of 486,000 pesos.

CARS FOR MAIL SERVICE.—The Post Office Department has ordered from the United States 25 mail cars to be placed on the railroad lines of the Republic. The cars are 60 feet long, with compartments for baggage and mail.

SEED STERILIZATION PLANT.—In Guaymas there has recently been put into operation a sterilization plant for the cereals of the Pacific coast. The plant is a three-story building with American machinery equipment, costing approximately 100,000 pesos. This sum is to be refunded to the Government by a small percentage on each sack of grain sterilized until the cost price of the plant is reached. After that the revenue will be given to the administration of the city of Guaymas. The plant has a capacity of 50,000 pounds per hour.

COTTON SPINNING AND WEAVING.—There are 132 spinning and weaving factories in Mexico, with 38,294 operatives of both sexes. From November 1, 1920, to April 30, 1921, 17,404,684 kilos of cotton were woven into 5,718,250 pieces of cotton cloth and 2,136,406 kilos of thread.

PETROLEUM EXPORT.—The total petroleum and related products export from January 1 to June 30, 1921, amounted to 14,839,241 cubic meters, with a stamp-tax revenue of 28,694,363.75 pesos on the production.

MINING SITUATION.—In the first six months of 1921 there were 24,841 clear titles to Mexican mines, and 317,313 claims, and taxes amounted to 3,201,995 pesos. During the six months mentioned 551 titles and 10,947 claims were canceled, which produced a revenue of 116,895 pesos. The production of minerals and metals for the first six months of 1921 was as follows: Gold, 10,251 kilograms, of which 3,423 were exported; silver, 942,718 kilograms, of which 832,378 were exported; lead, 24,150,519 kilograms, all exported;

copper, 8,838,335 kilograms, all exported; mercury, 16,628 kilograms, all exported; graphite, 2,534,371 kilograms, all exported; tungsten, 13,259 kilograms, all exported; antimony, 10,262 kilograms, all exported; molybdenum, 1,324 kilograms, all exported; arsenic, 483,205 kilograms, all exported; tin, 492 kilograms, all exported. The total taxes collected on these products amounted to 1,231,550.78 pesos.

STEAMER "CHIHUAHUA."—The Compañía Naviera de los Estados Unidos de México has recently been established with English capital in Mexico. The company has lately launched in the shipyard of Portsmouth, England, the *Chihuahua*, the first of a line of six steamers to ply between Los Angeles and San Francisco, the ports of Central America and the intermediate Mexican ports. It is planned to extend the routes to South America later on.

RAILROADS AND AIRPLANES.—From September 1, 1920, to September 1, 1921, important improvements were made in the Mexican railroads. These include the completion of the La Cumbre Tunnel in northeastern Mexico; the reconstruction of the Chihuahua-Ciudad Juárez line, and the completion at an early date of the branch between Temosachic and Madera; the construction of the double track between Tampico and La Barra, and the opening of through train service to Nuevo Laredo, Ciudad Juárez, Guadalajara, and Vera Cruz. The Government has granted a concession for aerial mail, passenger, and freight service between Mexico City and the principal cities of the Republic.

NICARAGUA.

COMMUNICATIONS.—The principal cities of Nicaragua are connected by rail and are in touch with the rest of the world by telegraph or cable. The 166-mile railroad leaves Corinto on the Pacific, crossing an iron bridge from the island to the mainland, and ends in Granada on the shores of Lake Nicaragua. It passes through four large towns and eight smaller ones, as well as a number of districts which will become important agriculturally.

CATTLE REGULATIONS.—Further regulations have been made in addition to the law of June 7, 1917, governing the export and slaughter of cattle. Cows and calves under 3 years may not be transported to the frontier regions without previous permission. "Frontier" is defined as being that strip of territory 20 hectares wide extending along the national boundary within the Republic. Permission is granted by the Minister of Hacienda, when the petitioner to move cattle to these regions furnishes a bond of 500 córdobas that the animals are not to be exported.

PARAGUAY.

COMMERCIAL DATA.—In order to stimulate and develop international trade in the natural and manufactured products of the country and to show the market for some of these in comparison with that for similar foreign products, the Minister of Foreign Relations has requested the Consular and Commerce Bureau to collect general information and supplementary data which will show the productive power of the country and the present state of certain agricultural lines and of the stock-raising industry and its allied branches. Each report will indicate the location and extent of the area cultivated, the quality and the annual yield of the following products: Yerba mate, tobacco, wood, fruits and vegetables, corn, rice, peas, manioc, farina, sugar cane, sugar, tannin, quebracho, cattle, leather, jerked and preserved meat, suet, and bristles.

TAX ON LIVE STOCK.—See page 84.

REMOVAL OF IMPORT DUTIES.—See page 84.

PERU.

SEATTLE PRODUCTS EXHIBITION.—An exhibition of Seattle products was held under the auspices of the Seattle Chamber of Commerce in the Parque Zoológico in Lima. The exhibits included articles of food and personal use, portable houses, and other manufactures of Seattle.

INDIGENE CRAFTS.—The national deputy from La Unión has interested the President and the Minister of Public Instruction in state protection of the indigene craft of rug and cloth weaving in the Inca patterns. Especially good work has been done at the Crafts School for Indigenes at Cotahuasi. The rugs produced are of excellent quality and the weaves, designs, and colors are attractive. So far this industry has not been extensively developed by the indigenes, owing to the lack of markets beyond the limits of the Province.

CATTLE IMPORTS.—See page 85.

REPUBLIC OF CENTRAL AMERICA.

FURNITURE MAKING.—In the Centenary Exposition in Guatemala City the exhibits of wooden and willow furniture attracted much attention for excellence both of design and finish.

TELEGRAPH SERVICE.—Arrangements are said to have been made for future telegraph service between Honduras and the United States via Guatemala and Mexico. This will effect a great saving over the cost of cablegrams.

GOVERNMENT COMMITTEES.—The States have been asked by the provisional Federal Council to send nominations for the Federal committees on the unification of customs duties and the banking and

monetary system, and also for the general staff for the unification of the army.

CAMINO REAL.—The road from San Salvador to Santa Cruz and Michapa has been put in condition for use by automobiles and carts.

URUGUAY.

WOOL EXPORT.—In the 50 weeks from October 1, 1920, 109,417 bales of wool of about 470 kilos were exported, making for the period approximately 51,426,200 kilos. Comparing this estimate with the figures of the year 1919–20 for the same period shows an increase of 7,069 bales, or 3,000,000 kilos.

RECENT RURAL EXPOSITIONS.—The recent rural expositions held during the fall were: Breeders' Fair, Treinta y Tres, October 18; Exposition of Sires and model farm equipment, Estación Young, October 23; auction fair of blooded sires and cows of the New Society of Stockmen of Tacuarembó, October 30; and the National Exhibition Fair held at Mercedes on November 13.

POULTRY SHOW.—The executive committee of the Poultry Association held a national exhibition of fowls in the Centro Ganadero. The president of the Republic offered a gold medal for the finest trio of Asiatic fowls of the Brahma, Cochin China, Indian Game, or Japanese strains. The Minister of Industry gave a medal and certificate of merit for the best trio of the Mediterranean strains: Leghorn, Minorca, Catalán del Prat, etc.

VENEZUELA.

LIVESTOCK EXHIBITION.—Last year there was held in Maracay an interesting live-stock exhibition organized under the auspices of La Hacienda. More than 300 specimens of live stock of different species were exhibited, among which were animals obtained by crossing foreign animals with native stock; pure-bred animals, raised in the country; native horses; pure-bred horses, raised in Venezuela; pack and draft mules; and other mules, the offspring of pure-bred imported asses and native mares. Although the exhibition was primarily of Venezuelan animals, foreign cattle were also shown; among these the Shorthorns, Holsteins, Friesians, and Jerseys were noticeable. This is the first live-stock exhibition to be held in Venezuela in this way.

FIRST AGRICULTURAL CONGRESS.—The first congress of agriculturalists, stock raisers, manufacturers, and merchants of Venezuela assembled in Caracas in June, 1921. More than 200 representatives were present.

RAILROADS.—The total length of the railroads of the Republic is 1,039 kilometers.

PETROLEUM CONCESSION.—The Congress has approved a contract between the Executive and a Venezuelan citizen for the exploration and exploitation of hydrocarbons in an area 10,000 hectares in extent located in the reserved zones of the Sucre district of the State of Zulia.

TELEPHONE LINES.—The Executive has approved a contract for the construction and exploitation of a telephone system 215 kilometers long between Federación district of the State of Falcón and Urdaneta district of the State of Lara. Another contract for a line uniting all the sections of San Fernando district of the State of Apure has also been approved.

ECONOMIC AND FINANCIAL AFFAIRS

CHILE.

LOAN.—A group of United States bankers has made the Chilean Government a loan of \$10,500,000. It is dated November 1, 1921, bears 8 per cent interest, and falls due November 1, 1946. The money will be used for improving the railroads and especially for electrification.

COLOMBIA.

INTERNAL DEBT.—The internal debt is divided into the consolidated and the floating debt. The consolidated debt is made up of the payment of interest on the par value of bonds, the quotas due, according to concordat, to the Roman Catholic Church, and the pension service. The floating debt is composed of the various amortizable bonds issued by the State. These bonds may be divided into three groups, as follows: Bonds amortizable by monthly auction; bonds amortizable by certain specified income of the customs; and bonds amortizable in a special manner.

The annual interest paid by the Government for different items of the consolidated debt is as follows: To the Department of Public instruction (10 per cent), 66,066.26 pesos; to the Charity Department (6 per cent), 8,969.98 pesos; to the Hospital de San Juan de Dios (12 per cent), 10,771.68 pesos; to church institutions ($4\frac{1}{2}$ per cent), 38,432.16 pesos; to lay institutions (3 per cent), 13,100.42 pesos; total, 137,340.50 pesos. The sums due by concordats amount to 82,000 pesos annually, and the yearly pension payments to 446,995.68

pesos. The total annual appropriation of the treasury for the consolidated internal debt is 666,336.18 pesos.

The par value of the bonds which compose the floating debt is shown by the following figures: Colombian bonds, 138,683.77 pesos; bonds of the war of 1895, 53,969.70 pesos; bonds of the war of 1899, 3,537,279.60 pesos; bonds for military rewards, 754,538 pesos; bonds for export duties, 620,433 pesos; treasury bonds, 2,813,655 pesos; vouchers for the Cauca Railroad, 5,268,260 pesos; vouchers for the Antioquía Railroad, 1,022,531 pesos; bonds held by foreigners, 2,860,248.72 pesos; bonds for the Cambao highway, 127,500 pesos; Colombian 10 per cent bonds, 7,273,919.31 pesos; treasury certificates, 4,000,000 pesos; total, 28,945,768.10 pesos. For further information regarding the internal debt, the December, 1921, issue of the BULLETIN may be consulted.

HAITI.

INTERNAL TAXES.—The internal taxes collected from October 1, 1920, to July 31, 1921, amounted to 584,887.67 gourdes and \$142,725.54. The chief sources of revenue were the following: Water service, 112,108.50 gourdes and \$7,722.41; stamped paper, 126,025.07 gourdes; licenses, 30 gourdes and \$34,184.82; and passports, \$46,173.85.

MEXICO.

ALCOHOL TAX.—The total tax revenue from alcohol and spirituous liquors collected during 1920 amounted to 9,566,375.68 pesos, of which the sum of 3,320,087.34 pesos was the tax on alcohol; 2,722,464.57 pesos on imported beverages; 1,267,174.38 pesos on wines and beer; and 2,256,649.39 pesos on the manufacture of native pulque.

FOREIGN CLAIMS.—Claims brought against the Government up to September 1, 1921, on account of the revolutions amounted to 221,331,891.21 pesos. Mexican citizens presented 927 claims, amounting to 93,906,545.63 pesos, and foreigners, 468 claims, amounting to 127,425,345.58 pesos. (*President's message.*)

PARAGUAY.

BUDGET.—In the budget for 1921-22 the total amount allotted to expenditures is 1,071,882.96 pesos gold and 105,189,849.35 pesos national currency.

PERU.

RÍMAC LOAN.—The Congreso Regional del Centro has authorized the district council of Rímac to contract a loan of 10,000 Peruvian pounds guaranteed by the public revenues and property of the district for use in the construction of a sewer system and other necessary public works.

URUGUAY.

BANK EMISSION.—The directorate of the Banco Hipotecario sent to the Ministry of Treasury a bill proposing to issue 10,000,000 pesos in mortgage bonds of series V. These bonds will bear 6 per cent annual interest, payable quarterly. The amortization will be made in February, May, August, and November of each year, according to article 29 of the bank law. The necessity for the new emission is due to the fact that of the present issue of series U only 4,772,875 pesos, worth remain.



LEGISLATION

ARGENTINA.

MINIMUM WAGE LAW.—Article 6 of the budget law, No. 11027, as approved by the Congress, provides the following:

Every employee or laborer over 18 years of age, without distinction of sex, who works at least 8 hours a day in the service of the State, has no other occupation, and receives no other remuneration, lodging, or board, will receive a salary of 160 pesos national currency per month, or 6.40 pesos per day, as a minimum, no discount for board and lodging to exceed 40 per cent.

The salaries fixed in the budget will be increased in accordance with the following scale: Those up to 149 pesos, 50 per cent; from 150 to 199 pesos, 40 per cent; from 200 to 250 pesos, 30 per cent; from 250 to 300 pesos, 20 per cent.

LABOR LAW FOR WOMEN AND CHILDREN.—The Congress has passed a bill prohibiting throughout the country the employment of children under 12 years of age in any work for another person, including domestic service. Older children subject to the compulsory education law who have not completed the required amount of education are included in the foregoing provision, although they may be authorized to work for their own support or that of their parents or brothers and sisters. Boys under 14 years of age and unmarried women under 18 shall not carry on for themselves or for an employer any street trade, nor may said minors be employed for night work, except in domestic service. Women and minors under 18 years of age who work in the morning and afternoon shall have a rest of two hours at noon.

Every employer of women and minors under 18 years of age is obliged to maintain in good condition his place of business, equip-

ment, machines, and tools, and so to arrange the work as to avoid in every possible way dangers to health, safety, and morality. The consumption of alcoholic beverages, either distilled or fermented, is prohibited in any building of a firm employing women or minors under 18 years of age.

IMMIGRATION REGULATION.—The President has issued a decree requiring that every foreigner entering the country shall, in addition to the documents required by the immigration law and regulations, obtain from the Argentine consul of the country of origin an individual permit, which the consul will grant on proof of the correctness of the data required to be given. On arriving in Argentina, this permit is presented to the immigration authorities, who preserve it in the files of the bureau.

BRAZIL.

INTERNATIONAL COURT OF JUSTICE.—A presidential decree of September 21, 1921, promulgated Brazil's ratification of the protocol of the League of Nations in regard to the International Court of Justice. Under condition of reciprocity Brazil accepts the obligatory jurisdiction of the court for the term of five years, provided two of the powers having permanent seats in the Council of the League also accept it.

LAW RELATING TO THE USE OF DRUGS.—The President has issued a decree containing provisions for the enforcement of law No. 4294, of July 6, 1921, regulating the importation, sale, or furnishing of poisonous substances. According to this law poisonous or narcotic substances, such as opium and its derivatives, cocaine, and similar drugs, may not be cleared through the customhouse, or be delivered when coming through the mails, without a previous permit from the National Department of Public Health, said permit to be obtained through the board of supervision of the practice of medicine, pharmacy, dentistry and obstetrics. The permit shall be required for each shipment of such substances, and may be given in the form of a *visa* placed on the document required for the clearing. Persons infringing this provision will be liable to a fine of from 500 to 2,000 milreis, or double the amount in case of repetition of the offense.

The same law contains a provision for the establishment of sanitariums for toximaniacs, devoted to the special treatment of persons suffering from alcoholic intoxication or the effects of drug poisons, such treatment to be both medical and correctional.

CHILE.

ASSISTANCE TO NITRATE PRODUCERS.—A law passed in September authorized the President to advance money to the nitrate producers who keep their plants open up to the amount of 7.50 pesos na-

tional currency per 46 kilos of nitrate ready for embarkation. This offer holds good until December 31, 1922. The advance will be paid in drafts to be discounted within the country, and will be met from the proceeds of the first exportation. Half the loan may be granted in pounds sterling.

DIPLOMATIC REORGANIZATION.—A recent decree contains important regulations for the selection and preparation of members of the Diplomatic Service. Henceforth any person wishing to hold a position as secretary or member of the staff in the Chilean diplomatic foreign service must pass oral and written tests in the following subjects: Universal and national history, Chilean diplomatic history, international law, political constitution of the State, political economy, and social and diplomatic usage. Candidates must know French, and should know other foreign languages.

COSTA RICA.

GOOD ROADS LAW.—A new law for the construction and maintenance of roads provides as follows: The municipalities are charged with the responsibility for the construction, repair, and maintenance of the public roads. They will name one or more road commissions, membership in which is obligatory, although without compensation. The work in general will be under the supervision of a roads bureau created in the department of promotion, one of whose members will be an engineer experienced in road construction.

Funds will be derived from the following sources: An annual appropriation in the budget to cover bureau expenses, salary of an expert for each province, and machinery; the net product of the territorial tax; and direct taxes in each canton.

CUBA.

INTERNATIONAL SETTLEMENTS AND AGREEMENTS.—The President of the Republic has announced that the Senate has approved the settlement of Madrid of April 14, 1891, concerning the suppression of false information as to the source of merchandise, revised in Washington June 2, 1911; the settlement of Madrid of the same date, for the international registration of trade-marks, revised in Brussels December 14, 1900, and in Washington June 2, 1911; and the agreement of the Union of Paris of March 20, 1883, for the protection of industrial property, revised in Brussels December 14, 1900, and in Washington June 2, 1911.

PRICE OF FOODSTUFFS.—On the initiative of the Secretary of Agriculture, the President of the Republic has signed a decree which provides that the profits of wholesale dealers must not exceed 10 per cent when they sell to retail merchants, and that the latter in selling to the public also must not receive a greater percentage of profit.

DOMINICAN REPUBLIC.

LOAN LAW.—Executive order No. 671 has changed the loan law order No. 291 so that professional men, agriculturalists, industrial producers, and laborers may secure loans on the products, instruments, utensils, tools, and furniture belonging to their profession or work, meantime retaining them for use, using as a guarantee for this class of loan-crops, hardwoods, salt, vehicles, portable tools and instruments used in agriculture, industries, or professions. These loans are subject to the making of certain declarations before the mayor.

ECUADOR.

LABOR ACCIDENT LAW.—A labor accident law was signed by the President on September 30, 1921. It provides for half pay for temporary incapacity arising from accidents or diseases produced by the laborer's work; and for two years' pay for total incapacity. If the accident produces total incapacity for the victim's previous work, but leaves him able to perform other duties, the employer must either pay him the indemnity or find him work at the same wages.

The indemnity may be reduced by the judge as to amount or length of time for which it is to be paid, the judge taking into consideration the importance of the work, the financial ability of the employer or contractor, and the other circumstances of the case. The law also provides for compensation to the family of the workman in case of his death as the result of a labor accident.

ALCOHOLIC LIQUORS.—A legislative decree of September 5, 1921, prohibits subsequent to January 1, 1922, the Sunday sale of alcoholic liquors, guarapo, chicha, and beer. Debts in public establishments or saloons for alcoholic drinks, contracted after the law is in force, will not be recoverable by civil suit.

The Executive is empowered to issue regulations concerning saloons, bars, and other establishments selling alcoholic drinks, in order to restrict the use of such beverages and to subject the establishment to strict vigilance.

HAITI.

CODE OF CRIMINAL PROCEDURE.—The official paper, *Le Moniteur*, began on October 15, 1921, the publication of a law which changes the previously existing code of criminal procedure, bringing it into harmony with other legislation and modifying it in accordance with modern juridical science.

NICARAGUA.

HIGH COMMISSION IN NICARAGUA.—The Inter-American High Commission is an institution working with the Governments of the American countries for uniform legislation on commercial and finan-

cial matters, preparing and urging the passage of such laws. The Inter-American High Commission has its central council in Washington, D. C., and has in Nicaragua a national council composed of 9 men who reside in the capital, Managua. These members are appointed for two years' honorary service by the Minister of Hacienda. The purposes of the Nicaraguan section are: To cooperate with the other national sections and the main body; to prepare information and recommendations to be used by the high commission; to prepare trade reports; to communicate with the central executive council and other national councils; to publish the works of the section; and to issue an annual statement to be published in the official Report of the Minister of the Treasury.

PANAMA.

CITY REVENUES.—Decree No. 11 of October 17, 1921, provides that the collection and management of the revenues and expenditures of the municipalities shall be in charge of the fiscal agent of the Republic, who is to furnish model budgets for the municipalities in order to obtain uniformity of taxation and expenditure of revenue. Each municipal treasurer is to prepare a tentative budget for his district to be submitted to the municipal council, voted upon and sent to the fiscal agent for revision before the 20th of December of each year. If satisfactory it will be forwarded to the mayor to be put into effect on July 1 of the following year. The municipal accounts are at all times open to inspection by the fiscal agent.

PARAGUAY.

TAX ON LIVE STOCK.—Law No. 538 which went into effect October 15, 1921, says that each head of cattle slaughtered for public or private consumption will be taxed 25 pesos national currency. When cattle are sold to packing plants, the same amount will be paid as a sales tax by the seller instead of as a slaughter tax. No cattle and horses may be transported from one part of the country to another nor shipped out of the Republic without a transfer permit which will cost 50 centavos national currency for each animal to be moved. The export of hides can not be authorized without proof of the payment of the slaughter tax.

REMOVAL OF IMPORT DUTIES.—In accordance with the terms of the new budget, the following articles will not be subject to import duties: Foodstuffs and other edible products, such as fruits and fresh vegetables, fresh fish; nonedible seeds; hardware, such as plows, picks, spades, mining drills, pumps, ungalvanized iron pipes, coal, tools and furniture belonging to immigrants, and used furniture and effects belonging to nationals or foreigners who are intending to settle in the country; locomotives, machines and repair parts and

accessories for industrial and farming establishments, for steamboats or any other motor-driven machinery; electric, steam, or gasoline motors; rolling stock for railroads and street-car lines; iron or steel rails; galvanized iron wire for fences; machinery and accessories for irrigation; automobile trucks and autobuses; surgical, physical, optical, and chemical apparatus, scientific apparatus, terrestrial globes, maps; full-bred stock and breeding stock; plants to be cultivated; gold or pure silver in granular form; and other articles. Articles of national production returned to the country within six months of their export are also included in the foregoing exemption.

PERU.

CATTLE IMPORTS.—A decree has been issued adding to the decree of August 6, 1920, the following rules on importing live stock: Animals which, upon arrival at their destination, show signs of contagious disease will not be permitted to land when in serious condition. If the symptoms are doubtful the animals will be quarantined. If the disease is contagious but not serious the animals will be quarantined under care of Government officials. The expenses of the quarantine are to be borne by the owner of the animals.

ALLOTMENT OF REVENUES.—The Congreso Regional del Centro has issued law No. 484 whereby the city, country, industrial, and ecclesiastical revenues of each Province of the Central Region, after payment of expenditures, are to be divided in the ratio of 40 per cent to the capitals and 60 per cent to the districts of each Province according to the number of inhabitants.

REPUBLIC OF CENTRAL AMERICA.

BUREAU OF MONETARY GUARANTY.—By a law promulgated by the Republic of Guatemala before its entrance into the Republic of Central America a bureau of monetary guaranty is formed with the following powers: To buy and sell drafts in American gold on foreign countries in return for national bank notes, fixing the corresponding commission; to see that the funds due this bureau by law are paid to it; to deposit in one or more properly guaranteed foreign banks the funds belonging to the bureau; and to issue drafts and checks on the funds at its disposal. The Executive is authorized to obtain a credit, either internal or foreign, of \$5,000,000 to be used exclusively for this institution, and in conformity with the present law. It will be guaranteed by the securities received from banks and also by national revenues of Guatemala.

INTERNAL DEBT.—By a legislative decree of September 30, 1921, the Executive of Guatemala was authorized to liquidate the internal debt with the banks in a way conducive to the financial stability of the country.

NATIONAL INSIGNIA.—The national insignia were established by the constitution as follows: The coat of arms is an equilateral triangle within which appears the chain of five volcanoes on a strip of land bathed by both oceans; spanning the mountains is a rainbow, beneath which the rising sun of liberty sheds its beams. In a circumscribed circle in gold are the words *República de Centroamérica* and on the base of the triangle, likewise in gold letters, the words *Diós, Unión, Libertad*. The flag has three horizontal stripes, the outer blue and the middle white; on the latter the coat of arms previously described is placed. In pennants the stripes are vertical. The merchant flag does not bear the shield, but the legend *Diós, Unión, Libertad* in silver letters.

VENEZUELA.

INTERNATIONAL COURT OF JUSTICE.—The Congress has approved the protocol relative to the establishment of a permanent International Court of Justice issued by the Assembly of the League of Nations in Geneva, and also the statutes for the court.

INTERNATIONAL TREATIES

CHILE—SWEDEN.

ARBITRATION TREATY.—A treaty between Chile and Sweden provides that any difference, of whatever nature, which may arise between the Governments of Chile and Sweden and which is not settled by diplomacy or laid before an arbitral court or the court of the League of Nations shall be submitted to a commission composed of five members. Ratifications were exchanged May 3, 1921, and the treaty has now been promulgated as a Chilean law.

ECUADOR—VENEZUELA.

ARBITRATION TREATY.—The arbitration treaty signed in Quito on May 22, 1921, by the Minister of Foreign Affairs of Ecuador and the Chargé d'Affaires of Venezuela has been ratified by the Congress of Ecuador.

JAPAN—PARAGUAY.

COMMERCE TREATY.—On August 25 ratifications of the treaty of commerce between Japan and Paraguay, signed in Asunción November 17, 1919, were exchanged in Santiago.

PUBLIC INSTRUCTION AND EDUCATION

ARGENTINA.

BUEN CONSEJO SCHOOL.—This educational institution, started in Buenos Aires in 1918, gives a free education to destitute girls, and prepares them for useful wifehood and motherhood. In the school there are classes in sewing, dressmaking, mending, embroidery, and weaving. Wool is brought into the school in the fleece, and is there washed, spun into yarn, and woven. The girls are also taught to wash, iron, and cook simple nutritious and inexpensive meals.

POPULAR UNIVERSITY.—The "Sociedad Luz," or popular university, recently opened its new quarters, where there are a large assembly room, a library of nearly 5,000 volumes, physics, chemistry, and zoology laboratories, and rooms for classes in drawing, mechanical engineering and dressmaking.

CHILE.

SALVADOR SANFUENTES SCHOOL.—This advanced Government school for boys recently opened its new building in Santiago. It has a capacity of 760. In addition to the class rooms there are a dental office, a medical clinic, museum, manual training rooms, swimming pool, a gymnasium which will seat 1,000 persons, and space to install a school lunch system.

PUBLIC PRIMARY INSTRUCTION.—The following figures for June, 1921, show the increase in primary school attendance since the compulsory primary education law went into effect; number of schools in 1921, 3,082, against 2,994 in 1920; number of pupils registered, 370,918, against 278,911; and average attendance, 271,580, against 202,730.

CENTENARY OF A LICEO.—The secondary school for boys of La Serena has celebrated its hundredth anniversary.

INSTRUCTION IN MAGALLANES.—In the Territory of Magallanes (Magellan) there are 46 primary and secondary schools, 12 of which, with an enrollment of 1,576, are supported by the national treasury, while 20 territorial schools have an enrollment of 1,450. Over 1,000 pupils attend the 13 private day schools, and 350 the night schools for boys and young men. The census of children in the Territory shows 3,164 boys and 3,096 girls between the ages of 5 and 13.

COLOMBIA.

PRIMARY INSTRUCTION.—In the report presented to Congress by the Minister of Public Instruction appear the following data on primary instruction in Colombia in 1920:

	Departments.						
	Antioquia.	Atlántico.	Bolívar.	Boyacá.	Caldas.	Norte de Santander.	Cauca.
Total schools.....	972	129	279	536	585	243	201
Public.....				494	533	215	
Private.....				42	52	28	
Advanced boys' schools.....			6				
Advanced girls' schools.....			5				
City schools for boys.....			57	119	61		
City schools for girls.....			61	101	55		
Rural schools.....				260			
Rural schools for boys.....			40		66		
Rural schools for girls.....			27		65		
Mixed schools.....					286		
Mixed schools—rural.....			54				
Mixed schools—city.....				14			
Evening schools.....			29				
Model schools.....							
National School of Weaving.....							
Vocational schools.....							
Total pupils registered.....	81,540	6,115	13,302	29,215	47,027	12,081	14,736
Average attendance.....	67,415	4,429	10,460	25,499	41,514	10,070	13,052

	Departments.					
	Cundinamarca.	Magdalena.	Nariño.	Santander.	Tolima.	Valle.
Total schools.....	830	197	284	461	348	323
Public.....					341	300
Private.....					7	23
Advanced boys' schools.....				11	1	
Advanced girls' schools.....				5		
City schools for boys.....		33		97	58	44
City schools for girls.....		33		97	60	53
Rural schools.....						
Rural schools for boys.....		37		8	14	34
Rural schools for girls.....		34		7	14	32
Mixed schools.....				12		
Mixed schools—rural.....		49				132
Mixed schools—city.....						
Evening schools.....	14	11		8	6	3
Model schools.....	3					
National School of Weaving.....	1					
Vocational schools.....	13			2	3	
Total pupils registered.....	40,886	7,205	23,172	19,911	16,523	26,741
Average attendance.....	34,561	5,475	19,453	19,700	14,930	21,793

The departments showed a pronounced increase in registration, and a more than proportionate increase in average attendance over the 1919 figures.

COSTA RICA.

SANITARY ASSISTANTS.—Twenty-five young women this year took the examinations for sanitary assistants in the schools. The course in modern school hygiene had been given by the chief of the anky-

lostomiasis (hookworm) department and three other well known physicians.

CUBA.

COURSE IN WIRELESS TELEGRAPHY.—The Department of Communications has announced the opening of a course of wireless telegraphy in the Academy of the Department. To enter the course it is necessary to be a Cuban citizen at least 17 years of age of good moral character; and to know telegraphy sufficiently well to receive and transcribe 15 words a minute.

DIPLOMATIC AND CONSULAR SERVICE.—The National University has opened a diplomatic and consular service course in the College of Public Law. The object of this course will be the proper preparation of representatives of the Republic in foreign countries, so that they will be competent to fill in the most adequate manner the positions entrusted to them.

DOMINICAN REPUBLIC.

EXTRA SCHOOL FUNDS.—The Communes of Esperanza and Guayubín will expend part or all of their surplus funds for additional school equipment.

COLLEGE OF ST. THOMAS AQUINAS.—The college of Santo Tomás de Aquino has recently been reopened; it offers high-grade preparatory work.

SCHOOL OF COMMERCE.—The Chamber of Commerce of Santiago is to open a school of commerce to supply the need for a school of this type.

ECUADOR.

SCHOOL ARCHITECTURE.—In the Ministry of Public Instruction a technical bureau of architecture has been organized.

SCHOLARSHIPS.—Forty scholarships in the girls' normal school, the Instituto Normal Mañuela Cañizares, and 45 in the boys' normal school, the Instituto Normal Juan Montalvo, have been assigned to the provinces of the Republic, the number for a Province varying from one to five for each school.

NEW LICEO.—The Paulist Fathers have established in Quito a new secondary school in which agricultural, commercial, industrial, financial, and cultural courses will be given.

HAITI.

SECONDARY EXAMINATIONS.—The new program of secondary examinations, with their corresponding weight in the scale of marks, is as follows: Course A, written—French composition, 3; Latin translation, 3; Greek translation, 2; Spanish or English translation, 2. Course A, oral—French, 3; Latin and Greek, 3; Mathematics, 2; general history and geography, 2; Haitian history and geography, 2;

physics and chemistry, 1; animal physiology, 2. Course B, written—French, 3; mathematics, 3; English or Spanish, 2; drawing, 2. Course B, oral—French, 3; mathematics, 3; general history and geography, 2; Haitian history and geography, 2; physics and chemistry, 2; animal physiology, 2; cosmography, 1. Philosophy A, written—Philosophy, 3; history of Haiti, 2. Philosophy A, oral—Philosophy, 3; general history and geography, 2; organic chemistry, 2; a modern language, 2; law and political economy, 1; hygiene, 1. Philosophy B, written—Philosophy, 3; science, 3; history of Haiti, 2. Philosophy B, oral—Philosophy, 3; mathematics, 3; general history and geography, 2; a modern language, 2; law and political economy, 1; hygiene, 1. The foregoing are the secondary examinations of the second degree, taken at the end of the course. Those of the first degree follow. Written: French, 3; Latin translation, 2; mathematics, 2; Spanish or English translation, 2. Oral: French, 3; Latin, 2; mathematics and accounting, 2; physics, chemistry, or geology, 2; general history and geography, 2; Haitian history and geography, 2; a modern language, 2; civics and ethics, 2.

HISTORY AND GEOGRAPHY OF HAITI.—These subjects will form part of the written tests for all school certificates, beginning with the primary and including the secondary and normal examinations.

MEXICO.

EDUCATION IN 1922.—The Secretary of Public Instruction has prepared a plan of education for 1922 not only to reach the children of the middle classes and give vocational studies to the young people but to bring the same facilities to the laboring classes and the inhabitants of country districts. The educational budget has been increased to permit the opening of 200 more primary schools in connection with the normal schools; the establishment of kindergartens in even the poorest sections of the Federal District; the opening of 100 rural schools; the supervision of night schools for workmen, substituting practical education for purely cultural courses; the acquisition of several pieces of property and the necessary equipment for teaching agriculture; and the establishment of shops for students studying arts and trades. To increase the staff of teachers a night normal school is to be opened and classes are to be held so that teachers may attend them in the vacation period.

PERU.

POPULAR UNIVERSITY.—On October 11 the Popular University opened its second year to students of both sexes. This university was created by order of the First National Congress of Students which met last year in Cuzco. The object of the school is to make courses available for the laboring class and general public. The teachers, who are students in the University of San Marcos, are

presided over by one of the professors. In addition to its cultural aims, the objects of this institution are to impress its students with the importance of study, to carry on a campaign against alcoholism, and to disseminate knowledge regarding personal hygiene and sanitation. The courses include: Spanish grammar; general geography; arithmetic; home remedies; botany; physics; geometry; parasitology; anatomy; political economy; general history; English; and other subjects.

MEDICAL CLINIC CLASS.—Dr. Julian Arce, of the San Roque service of the Hospital Dos de Mayo, opened his clinic class in September. All medical students and doctors may attend.

REPUBLIC OF CENTRAL AMERICA.

MANUAL TRAINING.—Carpentry, weaving, and spinning classes have been opened in the boys' primary school of Totonicapán, Guatemala, and embroidery and spinning classes in the girls' school of the same city.

SCHOOL PRINCIPALS.—According to the qualifications demanded of principals for Salvadorean high, grammar, primary, or city schools, or heads of departments, including kindergartens, candidates must either be normal school graduates or first-class practical teachers with 10 years' experience; both types of candidate must have testimonials of good moral character and a health certificate furnished by the chief of the school sanitation section. In addition, written tests will be given in pedagogical subjects. There will also be a problem in school legislation and questions on the main laws in effect in Salvador; two tests in practice teaching in any of the following subjects: Reading, Spanish, arithmetic, geography, or national history. A certificate of approval signed by the director general will be the candidate's diploma and he may not be removed from his post while his conduct and the quality of his work are satisfactory.

DRESSMAKING SCHOOL.—El Bien del Hogar, a school for cutting and dressmaking in San Salvador, has been granted a monthly subsidy of 100 colones from the State upon the condition that it furnish 10 free scholarships a year to State appointees.

REFORM SCHOOL.—Five monks from Italy, engaged by the Salvadorean Government for the management of the reform school of the capital, have arrived to take up the work. These new directors plan the establishment of a deaf-mute department in connection with the school, as they have had much experience in Italy in this line.

URUGUAY.

DEAF-MUTE INSTITUTE.—Señor Queirolo de Rolando by a donation has made possible a basketry class in the Deaf-Mute Institute for Girls. A new class in wool spinning and one in physical culture are also part of the course.

SOCIAL PROGRESS

ARGENTINA.

ANTICANCER LEAGUE.—The league for social education and assistance which was recently founded hopes to take a prominent part in the fight against cancer by aiding those suffering from the disease, cooperating in scientific research, and spreading the best information obtainable regarding the treatment and cure of cancer. The league expects to have a publication which will give information as to how the first symptoms may be recognized, thus making possible the prompt treatment of the disease.

MINIMUM WAGE LAW.—See page 80.

LABOR LAW FOR WOMEN AND CHILDREN.—See page 80.

CHILE.

PLAYGROUND.—The teachers and pupils of the primary, secondary, and upper schools will have the exclusive use of the new playground in Santiago, for which land is lent by the Potable Water Co.

TUBERCULOSIS DISPENSARIES.—The Women's Antituberculosis Association of Santiago manages two dispensaries, each equipped with a laboratory and attended by two physicians. One dispensary has an X-ray apparatus, and it is hoped shortly to buy another. The members of the association act as clinical assistants. During last September 599 patients received attention.

WHITE CROSS.—For some time a society of Santiago women under the name of the White Cross has conducted a reform school for wayward girls. In 20 months it has rehabilitated and returned to useful work more than 200. The house has shops where the girls learn a trade, to sew, weave, and do other feminine work. The establishment is directed by nuns who have made a special study of modern penal methods, psychology, and education.

COSTA RICA.

SANITARY ASSISTANTS.—See page 88.

ECUADOR.

DAY NURSERY.—The first day nursery in Ecuador was opened October 9, 1921, in Guayaquil in a reinforced concrete building erected through the generosity of the citizens and the efforts of Dr.

Juan Bautista Arzube Cordero and of the other members of the Puericulture Society.

BACTERIOLOGIST.—The position of bacteriologist of the venereal prophylaxis service of Pichincha Province has been created by presidential decree.

PROTECTION OF CHILDREN.—A society for the protection of children, modeled after that in Quito, is being started in Ibarra.

GIFT TO CHILDREN'S HOSPITAL.—Two residents of Guayaquil have given to the Children's Hospital complete equipment, valued at more than 12,000 francs, for the operating rooms. The operating tables, sterilizers, and other apparatus were purchased in France.

CITY PHYSICIANS.—A corps of city physicians has been established in Guayaquil to render emergency service. A physician will be on call at any time, and services and medicine will be free to the poor. Eight telephone stations have been opened in various parts of the city for use in summoning the city physicians.

LABOR ACCIDENT LAW.—See page 83.

ALCOHOLIC LIQUORS.—See page 83.

MEXICO.

INDUSTRIAL INSURANCE.—The board of directors of the National Railroad Lines of Mexico have received permission from the President of the Republic to establish a system of industrial insurance from the surplus receipts of the railroads, without depriving the employees of any of their salary. This insurance is not only for workmen incapacitated in performance of their duties, aged and infirm employees, the nearest of kin to those who die in the service of the railroad, but for the entire force of workmen, including those who have for a stated time served the railroad faithfully and wish to retire or go into other business. The amount of insurance will be proportionate to the position, salary, and length of service of the employee.

PANAMA.

CITY REVENUES.—See page 84.

COLON CLINIC.—The clinic started in Colon by the Cristóbal Women's Club is caring for about 2,000 cases a month, and has handled over 5,000 since it started in June. Indians are coming in from the San Blas country for treatment.

PERU.

SOCIETY FOR THE PROTECTION OF INFANCY.—The Society for the Protection of Infancy is to receive half of the 10 per cent tax on admission charges to places of amusement. This will enable the asso-

ciation to coordinate and develop, under Government supervision, milk stations, day nurseries, convalescent homes, and asylums.

CITY MILK DISTRIBUTION.—The mayor of Lima has issued orders that the police department, which has charge of the granting of licenses to vendors of provisions and beverages, shall also issue licenses to milk dealers. Applicants for such licenses must show health certificates, furnished free by the hygiene inspection bureau, and must deposit 50 Peruvian pounds. Milk dealers will not be permitted to continue their business unless they fulfill these conditions.

REPUBLIC OF CENTRAL AMERICA.

DISPENSARY CAR.—Guatemala has established a free dispensary car to serve all towns adjacent to its railroads; 2,000 pesos monthly were appropriated for medicine and other necessary expenses and \$100 for the salary of the physician in charge. The railroad company will furnish the car and the Rockefeller Foundation will cooperate.

CHILD HEALTH STATION.—The child health station in Guatemala City is continuing its good work. In one month the attendance reached 2,019. The average daily expense is calculated at 5 pesos for the older children and 8 pesos for the younger ones. The city council made a gift of 2,000 pesos and financial support is being given in the name of children.

CHILDREN'S MUNICIPAL LIBRARY.—A municipal library of over 1,000 volumes has been opened for children in San Salvador and is well patronized. Reading rooms such as this are to be established in various wards of the city.

GOTA DE LECHE.—The Gota de Leche, or free milk station, of San Salvador was officially opened on September 15. The staff of the institution consists of the physician in charge, assistant physician, superintendent, medical students, and two nurses trained in the Rosales Hospital.

There have also been established by some of the founders of the Gota de Leche other important health centers: The emergency clinic with its ambulance; the medical dispensary which cares for a daily average of 50 patients; the Santa Lucía and Concepción venereal clinics; and the medical consultation offices in the Departments of Santa Ana, Sonsonate, San Miguel, Santa Tecla, San Vicente, Zacatecoluca, and Cohutepeque.



GENERAL NOTES

ARGENTINA.

CERVANTES THEATER.—The beautiful new building of the Cervantes Theater, on the corner of Calles Libertad and Córdoba in Buenos Aires, was opened a few months ago. The main façade is a faithful reproduction of the famous University of Alcalá de Henares in Spain, and to be consistent with its architecture, the other façade is also in the style of the Spanish Renaissance. The theater has a capacity of 1,700. The rich stage curtain is a product of the royal tapestry factory of Spain.

GOOD ROADS CONGRESS.—The Argentine Touring Club is preparing for a good roads congress in Buenos Aires in May, 1922. The executive committee intends to include in the program all the different phases of the good roads problem of the Republic. Among the subjects to be discussed are technical construction, road legislation, and the most adequate means for financing an extensive plan for highway building.

POPULATION.—The census of 1914 showed a total population of 7,885,237 inhabitants, as follows: Argentinians: Males, 2,753,214; females, 2,774,071; foreigners: males, 1,473,809; females, 884,143. The present estimated population of the Republic is 9,000,000.

BOLIVIA.

BOLIVIAN AVIATRIX.—Señorita Amalia Villa de la Tapia of Potosí, Bolivia, has finished her course in the Bellavista Aviation School of Peru and has but to make a flight in her own airplane, as prescribed by the school's rules, to win her pilot's license. It is reported that a group of students of the Girls' Lyceum in Peru is raising a subscription to present Señorita Villa de la Tapia with an airplane so that she may complete her last flying test.

OPHTHALMOLOGICAL CONGRESS.—Through the Legation of the United States the Bolivian Government has been invited to send representatives to the International Congress of Ophthalmology to be held in Washington April 25-28, 1922.

BRAZIL.

DR. RUY BARBOSA.—The election of Senator Ruy Barbosa to the International Court of Justice, under the League of Nations, was made the occasion of a nation-wide tribute of affection and admiration for the venerable Brazilian statesman and jurist.

COLOMBIA.

DR. GABRIEL O'BYRNE.—This well-known man, distinguished in science and letters, and dean of Colombian journalists, recently died in Cartagena. Dr. O'Bryne had served his country in many important public positions. He had been a representative in the Congress, counsellor of the Legation of Colombia in Washington, and colonel in the army, as well as the incumbent of other offices. He is deeply mourned.

COSTA RICA.

STATUE OF FIRST PRESIDENT.—A bronze statue of Don Juan Mora Fernández was unveiled in San José on September 15.

CENTENARY EDITION OF STAMPS.—New stamps were issued in the denominations of 2, 3, 6, 15, and 30 céntimos.

DOMINICAN REPUBLIC.

PASTEUR TREATMENT.—A consignment of antirabies serum from the United States for use in the Pasteur treatment for hydrophobia has arrived in the city of Santiago.

PAINTINGS.—On October 12, an exhibition of paintings by Arturo Baez and Simón Dominguez was opened in the Santiago Municipal Palace. This is the first exhibit of national paintings held in Santiago.

VACCINATION.—The department of sanitation urges all Dominicans who have not been vaccinated to have this done immediately to reduce the danger from smallpox. The National Dominican Laboratory is now making the vaccine.

ECUADOR.

PAVING.—A contract for 150,000 square meters of paving in Quito has been let by the Pichincha Centenary Committee. An American system is to be used.

DRINKING WATER FOR GUAYAQUIL.—Work is progressing on laying pipes under the Guayas River for Guayaquil's new supply of drinking water. This enterprise was begun in 1914 by a British concern, but was interrupted by the war.

PANAMA.

RELAPSING FEVER TRANSMISSION.—Experiments recently made in Panama upon American soldiers who volunteered for the test have confirmed the doctors' theory that relapsing fever is transmitted by the bite of a tick.

VENEZUELAN STUDIES LEPROSY CURE.—Dr. E. Noguera Gómez, a Venezuelan Government chemist sent by Dr. L. G. Itriago, national

health officer of Venezuela, has arrived in Panama to make a study of Chaulmoogra oil as a cure for leprosy. The new treatment has produced marked improvement in the leper colony at Palo Seco.

PERU.

WINTER ART EXHIBITION.—The winter art exhibition at the Fine Arts Society Salon had many visitors desirous of viewing the works of Peruvian artists. There were also some very interesting carved wooden figures done in the Inca spirit by a Yugo-Slav sculptor.

MEDICAL LIBRARY.—The first volume of the Peruvian Centenary Medical Library is now published. This book contains biographical sketches of early Peruvian physicians and edits their contributions to medical science.

REPUBLIC OF CENTRAL AMERICA.

VACCINATION.—The Salvadorean department of sanitation has issued a bulletin on the organization of departmental smallpox vaccination service. The book contains 4 colored maps with accompanying tables showing area, population, towns and the distance of the latter from the department government seat. The book also gives the distribution of the year's work among the officials in charge of the service.

URUGUAY.

LIFE-SAVING AND SALVAGE STATION.—Local authorities at Maldonado have made application to the port authorities to have a tug stationed at that place because of the frequency of maritime disasters along that part of the coast. The press states that about three-fifths of the casualties to vessels on the River Plate route occur off this notoriously dangerous stretch of coast, news arriving at Montevideo at times too late to send effective assistance.

MEDICAL SCHOOL CONFERENCE.—Prof. Weinberg of the Pasteur Institute of Paris, specially invited by the dean of the medical school. Dr. Manuel Quintela, gave a series of scientific lectures before the faculty and medical student body. The lectures were on the following subjects: Rôle of microbes in infections of airborne diseases; serotherapy of polymicrobial infections; rôle of intestinal parasites in the etiology of infectious diseases; the reaction of the organism to verminous intoxication.

VENEZUELA.

SEWERS IN CARACAS.—In the December, 1921, number of *Ingeniería Internacional* there is an interesting article concerning the sewers of Caracas. The author mentions the interest which has

been awakened in Venezuela in public sanitation, stating that this is reflected in better hospitals, quarantine and port service, as well as in the organization of educational propaganda against various preventable contagious diseases and in the municipal improvements in Caracas and La Guaira. It is calculated that approximately \$15,000,000 will be spent on different projects in this connection.

Some time ago a thoroughly modern and complete plan was prepared for the sanitation of Caracas. This included the drinking-water supply and the sewer system. To-day the work for the former has been completed, and the construction of a modern sewer system, with main line and branches, is under way. The work was begun on the highest level, from which the branches were led down to join the main. As far as possible straight lines are maintained, and at every mouth, curve, or change of grade a larger transverse section is installed. The manholes are placed 100 meters apart, and also over all curves and almost all the outlets, while in the transverse sections too small to admit a man there are inspection wells. Ventilators to admit air and light are found every 20 meters, and at the entrance to the larger sewers there are screens to keep out stones and leaves. Drains have been constructed in the bottom to dry out the mud and sand.

The plan was prepared by Dr. Germán Jiménez and is being carried out under the direction of the Ministry of Public Works.



SUBJECT MATTER OF CONSULAR REPORTS

REPORTS RECEIVED TO NOVEMBER 28, 1921.

Subject.	Date.	Author.
ARGENTINA.		
Production, manufacture, and exportation of Argentine cotton	1921 Aug. 2	W. Henry Robertson, consul-general at Buenos Aires.
Special copy of "Buenos Aires Herald" covering pedigree cattle show at Palermo.	Sept. 12	Do.
Argentine law No. 11,208 for 1920, as applied to 1921.....	Sept. 22	Do.
Publication entitled "Petróleos y Minas" of Sept. 17, 1921.....	Sept. 23	Do.
Extract from "The Review of the River Plate" of Sept. 23, 1921, upon the subject of the "Balance of payments of the Argentine Republic for the economic year 1919-20."	...do.....	Do.
New Argentine-American Banking Institution.....	Sept. 24	Do.
Construction in northern Argentina.....	Sept. 30	Do.
Annual Report of the Ministry of Public Works for 1920-21.....	Oct. 6	Do.
Disallowance of Argentine Railway tariff increases. (From The Review of the River Plate, Sept. 30 and Oct. 7, 1921.)	Oct. 8	Do.
BOLIVIA.		
Bolivian national budget for the year 1921.....	Aug. 16	Nelson R. Park, vice consul at La Paz.
BRAZIL.		
Imports from all countries at port of Para for the month of August, 1921.	Sept. 16	Geo. H. Pickerell, consul at Para.
Market for American millinery in Sao Paulo.....	Sept. 22	E. M. Lawton, consul at Sao Paulo.
Market for American-made stoves, Pernambuco.....	Sept. 23	C. R. Cameron, consul at Pernambuco.
Annual report of commerce and industries of Sao Paulo for 1920..	Sept. 25	E. M. Lawton.
Sugar shipments from Recife for eight months of 1921.....	Sept. 28	C. R. Cameron.
New German steamship line for South America.....	Sept. 29	Do.
Exports from Bahia to the United States for September quarter...	Sept. 30	Thos. H. Bevan, consul at Bahia.
Establishment of stone crusher in Pernambuco.....	Oct. 14	C. R. Cameron.
Extension of Pernambuco Tramways.....	...do....	Do.
Bahia cocoa shipments for September quarter, 1921.....	Oct. 15	Thos. H. Bevan.
CHILE.		
Educational courses in schools of the Territory of Magallanes.....	Aug. 11	Austin C. Brady, consul at Punta Arenas.
Market for tire repair material.....	Aug. 12	Dayle C. McDonough, consul at Concepcion.
Crop reports.....	Sept. 1	Do.
Commercial conditions in Iquique.....	Sept. 4	Homer Brett, consul at Iquique.
Economic and descriptive data concerning Coronel.....	Sept. 5	Dayle C. McDonough.
The market for fish products.....	Sept. 14	Homer Brett.
National textile industry and market for ladies wearing apparel..	Sept. 30	Carl F. Deichman, consul general at Valparaiso.
Market for tire repair material.....	...do....	Do.
CUBA.		
Exports to the United States July 1 to Sept. 30, 1921.....	Oct. 5	Charles Forman, consul at Nueva Gerona.
The sale of German cement.....	Oct. 10	Harold D. Chum, consul at Santiago de Cuba.
Market for American-made stoves.....	Oct. 19	Frank Bohr, consul at Cienfuegos.
DOMINICAN REPUBLIC.		
Concessionaire for new electric light plant at Santo Domingo, ask for extension of time limit for completion of plant.	Oct. 20	George A. Makinson, vice consul at Santo Domingo.
Reduced freight rates announced on cement and gasoline.....	...do....	Do.
Vessels of Clyde Steamship Co., equipped with refrigerator space....	...do....	Do.

Reports received to November 28, 1921—Continued.

Subject.	Date.	Author.
ECUADOR.		
Imported tobacco in Ecuador	Sept. 15	Frederic W. Goding, consul general at Guayaquil.
Ecuadorian market for food products.....	Sept. 21	Do.
Guayji, the useful Ecuadorian fruit.....	Sept. 26	Do.
The coffee industry in Ecuador.....	Oct. 3	Do.
Railroad and highway development in Ecuador.....	Oct. 7	Do.
GUATEMALA.		
Annual report on commerce and industries for 1920.....	Oct. 4	Arthur C. Frost, consul at Guatemala City.
Guatemalan export taxes.....	Oct. 17	Do.
Fisheries and market for fish products.....	Oct. 19	Do.
HAITI.		
Fisheries and market for fish products.....	Sept. 23	Robert Dudley Longyear, vice consul at Port-au-Prince.
Market for American-made stoves.....	Oct. 13	Do.
HONDURAS.		
Statistics from the Port of Amapala for August, 1921.....	Oct. 19	G. K. Donald.
MEXICO.		
Company to promote tourist traffic to Yucatan.....	Oct. 10	O. Gaylord Marsh, consul at Progreso.
Yucatan makes innovation in production of fiber.....	Oct. 15	Do.
Extension of water system of Juarez.....	..do....	John W. Dye, consul at Ciudad Juarez.
Cotton growing in Sonora.....	Oct. 28	Francis J. Dyer, consul at Nogales.
PERU.		
Market for American-made stoves.....	Sept. 7	Claude E. Guyant, consul in charge Callao-Lima.
Cultivation and importation of rice in Peru.....	Oct. 5	Do.
SALVADOR.		
New steamship service to Europe.....	Oct. 7	Lynn W. Franklin, vice consul at San Salvador.
URUGUAY.		
Educational courses in Montevideo schools.....	Aug. 3	David J. D. Myers, consul at Montevideo.
Project to make extensions and improvements in port of Montevideo and economical dwelling houses to be built by Government in La Teja.....	Sept. 16	Do.
Excerpt from report of commerce and industries for August, 1921.....	Sept. 19	Do.
Market for rice, canned fruits, and vegetables.....	Sept. 30	Do.
VENEZUELA.		
Coffee shipments from the port of Maracaibo during September, 1921.....	Oct. 7	William A. Hickey, vice consul at Maracaibo.
General information on Maracaibo consular district.....	..do....	Do.



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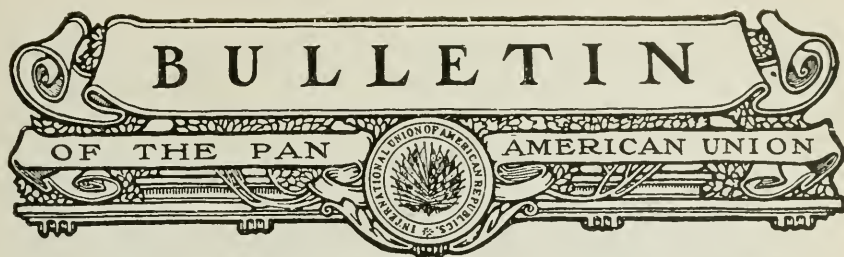
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THE PRESIDENT OF PERU AND HIS CABINET, WITH THE UNITED STATES SPECIAL MISSION TO THE CELEBRATION OF THE CENTENNIAL OF PERUVIAN INDEPENDENCE.

Front row: Left to right: Señor German Cisneros y Raygada, Introduceur of Ambassadors; Doctor Oscar Barros, Minister of Education; Admiral Rodman; Dr. Alberto Salomon, Minister of Foreign Affairs; Mr. Albert Douglas, Ambassador of the United States Special Mission; Mr. Augusto B. Leguia, President of Peru; Gen. Liggett; Dr. German Leguia y Martinez, Minister of the Interior and President of the Council; Col. William Boyce Thompson; Dr. William Farabee; Dr. Abraham Rodriguez Durlanto, Minister of Finance; Dr. P. Rada y Gamio, Minister of Development.
 Second row: Left to right: Lieut. Commander MacGruder, Aide to the United States Ambassador; Lieut. Col. Gordillo, Aide to the President; Dr. Santiago Rodoya, Secretary of the Peruvian Embassy in Washington; Col. Zorrilla, Chief of the President's Military Household; Maj. Henneke; Mr. Elmore, Commander Freyer, Chief of the American Naval Mission to Peru; Dr. Lauro E. Cuelletti, Minister of Marine; Dr. Alfredo Alvarez Calderon; Maj. Smith, Aide to the Ambassador; Commander Juan Leguia, Aide to Admiral Rodman.



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PAN AMERICAN CONFERENCE OF WOMEN

MEMBERS of the National League of Women Voters are making extensive preparations for the Pan American Conference of Women which is to be held next April in Baltimore, Md., in connection with the third annual convention of the League. Official delegates and distinguished women's organizations have been invited in all the American countries, and already much interest in the plan has been shown.

The conference planned by the National League of Women Voters will in a very real sense strengthen and carry a step forward the splendid initiative undertaken at the Second Pan American Scientific Congress, when a woman's auxiliary committee was formed to develop closer cooperation between the women of the American continent. The fine work then begun will receive a further impetus at the Pan American Conference of Women to be held at Baltimore in April next.

The opening feature of the conference will be a series of round-table conferences on subjects of especial interest to women. These conferences, an outline of which has already been published, include such topics as child welfare, education, women in industry, the civil status of women, and social hygiene. The sessions will be in charge of eminent women, each an expert on her special subject. They have been invited by the League of Women Voters to lead the discussions, but it is expected that delegates from the Pan American countries will play an active part, and that the ideas and aims of women in all three Americas will be fully expressed.

Such a general interchange of views on the problems which confront the women of the world to-day can not help but be of great value.

The League of Women Voters has planned its program in the belief that not only will a Pan American gathering of women tend to cement a closer bond of fellowship between the American peoples, but that very definite results may be achieved through the round-table conferences. Thinking women everywhere are recognizing to-day the necessity of raising the standards for women in industry, of securing legislation that will guard the civil rights of women, and of protecting in every possible way those who need protection. To this end it is fitting that the women of the American continent should come together to discuss the best means to the desired end, and that they should have an opportunity to help one another through friendly conference and consultation.

Mrs. Maud Wood Park, president of the National League of Women Voters, has said that women are instinctively ready to work together for the things that they wish to accomplish, because their interests are cooperative rather than competitive. "Women's distinctive interests," Mrs. Park said in a recent interview, "are in common—home making, children, general welfare—whereas men's distinctive interests are sometimes of necessity conflicting and have to be settled by compromise. There is nothing about the ordinary occupations of women which is competitive. To illustrate, if the women of one nation are able to secure a child-welfare measure, and to develop and improve their work along these lines, their step in advance is a help and not a hindrance to the women of all other nations. The occupations and interests of women are the occupations and interests of peace, and lend themselves readily to cooperation."

While the leaders of the round-table conferences will prepare outline programs covering the topics under discussion, they have agreed that these programs should be informal and elastic, offering ample opportunity for free expression of ideas.

Miss Julia Wade Abbott, of the United States Bureau of Education, will be in charge of the conference on "Education." Speaking of the plan for this conference, Miss Abbott says:

It is significant that the women of the Western Hemisphere should come together at this time to discuss education in its relation to the welfare of women and children. This conference should help define what is meant by the term "American education." For the term "American education" should be applied not alone to the 48 different State systems in the United States of America. "American" should define an education that is based upon the common needs and interests of the people in this New World: in Canada, in the countries of South America and Central America, and in the United States of America. On this side of the water we are more or less free from academic traditions. As women, we have been the first teachers of the race, and with us education has always been related to life. Is it too much to hope that because we bring an untrammelled point of view to this conference we may make a real contribution to education?

In discussing educational conditions in the different countries the efficiency of the schools may be tested by the degree to which they are providing for the great objectives of education—health, practical efficiency, citizenship, and the enjoyment of leisure.

Miss Mary Anderson, Chief of the Bureau of Women in Industry in the United States Department of Labor, who will be the leader of the conference on "Women in industry," says:



MRS. CARRIE CHAPMAN CATT.

President of the International Woman Suffrage Alliance and Honorary President of the National League of Women Voters. Leader of the round table conference on the Political Status of Women at the Pan American Conference of Women.

The conference of the League of Women Voters to be held jointly with the women of the South American nations will be interesting to the women in industry because of the large import and export of commodities produced in South American countries and in the United States. Women in the industries of both countries are faced with common problems which must be solved in cooperation. Industrially the Americas are linked, and the standards of one must affect those of the other. For instance, in both the United States and the South American countries we have commodities which are manufactured in the homes. Home work in these times is not what it was

before the development of industry when all the spinning, the weaving, and the making of clothes, shoes, and gloves, and most of the food products which are now made in the big stockyards, were manufactured in the home. The difference in home work now and then is that instead of work going from the home out in the factories, the work now is collected in the factories and taken to the home, finished and carried back to the factory. The poor conditions which usually surround home work, the child labor which enters into it, the impossibility of regulation by law either as to sanitation or hours of labor, and the competition of low wages, all militate against the health, happiness, and efficiency of the individual, the industry, and the community.

The conference on the "Prevention of traffic in women" is to be led by Dr. Valeria H. Parker, executive secretary of the Interdepartmental Social Hygiene Board. Dr. Parker speaks of the plan as follows:

During the past three years the United States Government has been expending generous sums of money for social hygiene purposes. The women of the United States have supported the Government program actively. They recognize that much remains to be accomplished and are determined to use every effort to prevent the reestablishment of the vice districts closed during the war.

There are many vexatious problems connected with the abolition of the social evil. Their solution is not easy. A conference of intelligent women citizens should aid in bringing about conditions under which health and character may be better safeguarded in the communities and nations represented.

Miss Grace Abbott is to lead a conference on "Child welfare." Miss Abbott is Chief of the Children's Bureau in the United States Department of Labor. She says of the conference:

Latin Americans interested in the problems of child care took the initiative in calling a Pan American Child Welfare Conference in Buenos Aires in 1916. Its objects were to establish and cultivate a common understanding of these problems among those who are specialists in that field. A second meeting of the congress was held in May, 1919, in Montevideo. On both of these occasions students and workers in the field of child care in the United States failed to appreciate the opportunity which the conference offered for comparison and cooperation in the work, as well as for Pan American acquaintance and understanding. This invitation to the women of North and South America to join with the League of Women Voters in the discussion of child welfare and other common problems is therefore a peculiarly happy one.

A detailed program has not yet been prepared. The Conference on Child Welfare, however, will have before it the problem of public provision for (1) maternity and infancy, (2) child hygiene, (3) child labor and industrial problems affecting children, and (4) children in need of special care—the dependent, neglected, defective, and delinquent children. It is hoped that formal papers can be all but eliminated and informal discussions and exchange of experience and plans can be relied upon to make the conference one of really practical value. It ought to be possible to work out as a result of these meetings what may be regarded as Pan American standards in these several fields of child welfare, which will be an expression of what the women who represent the young, rich and powerful Republics of the New World hope they may secure for all the children of the American Republics. It may be that out of this meeting there will be developed a national rivalry in the care of children and, in consequence, of the quality of the citizenship. In such rivalry there will be only rejoicing on the part of all as the standard is pushed higher and higher.



LEADERS IN ROUND TABLE CONFERENCES, PAN AMERICAN CONFERENCE OF WOMEN.

Upper left: Miss Grace Abbott, Chief of Children's Bureau, United States Department of Labor, in charge of Child Welfare. Upper right: Miss Julia Abbott, United States Bureau of Education, in charge of Education. Center: Mrs. Mabel Walker Willebrandt, United States Assistant Attorney General, in charge of Civil Status of Women. Lower left: Miss Mary Anderson, Chief of Women's Bureau, United States Department of Labor, in charge of Women in Industry. Lower right: Dr. Valeria Parker, Executive Secretary of the United States Interdepartmental Social Hygiene Board.

"The civil Status of Women" will be the subject of a conference led by Mrs. Mabel Walker Willebrandt, Assistant Attorney General of the United States. Mrs. Willebrandt has expressed her opinion as to the possibilities of a Pan American meeting:

The coming together of women from all the Americas in the Pan American Conference can not but give the greatest impetus toward the accomplishment of the common objective of all women—the raising of public opinion and equalization of laws in harmony with it to the complete recognition of the partnership status between man and woman.

Mrs. Carrie Chapman Catt, president of the International Woman Suffrage Alliance and honorary chairman of the National League of Women Voters, who is to lead a conference dealing with the "Political Status of Women," has said:

We know that women have particular desires, hopes which are peculiarly their own, ideals which their habits of thought and life have developed within them. It is of the utmost importance for all women to draw closely together, so that those who think and are able to formulate constructive programs may give to their groups, their communities, the highest interpretation of the woman's point of view.

The round-table conferences are to be held on April 20, 21, and 22. On Sunday, April 23, a mass meeting is planned, which will be addressed by the Pan American delegates, the general subject being "Leaders among women." This topic should call forth not only inspiring stories of the women whose names are recognized in the history of the Americas, but news of the great women of our own day, pioneers of this generation, who are making the way easier for the women and children who are to come.

On the evening of April 24 a banquet will be held. There will be speeches by eminent men and women of the United States and by the Pan American delegates. The general subject of these speeches is to be "International Friendliness."

The next three days will be given to sessions of the annual convention of the National League of Women Voters. To these meetings the Pan American guests are cordially invited, and all the privileges of the floor will be accorded them except a vote.

The program for the conference will not close until April 29. Plans are being made for the entertainment of the delegates during the closing days, and many groups and individuals have expressed a wish to extend hospitality in some form to the visitors. Bryn Mawr College, at Bryn Mawr, Pa., has invited the league to bring its guests to the college for a day, when Dr. M. Carey Thomas, its president, will give them a luncheon. Goucher College, in Baltimore, also wishes to throw open its doors to the conference guests and extends a cordial offer of hospitality and cooperation.

Other special features that have been planned are a trip to Annapolis and a day in Washington. The invitation to Annapolis, the capi-

tal city of Maryland, comes from the governor of the State, who will receive the delegates. A visit to the United States Naval Academy will be included in the program of the day.

The day in Washington will be given largely to visiting places of interest—the Capitol, the Pan American Union, and other public buildings. In the evening a mass meeting will be held, at which prominent speakers will discuss "What the women of the Americas can do to promote friendly relations"—a subject which embodies the guiding thought of the entire conference.

In planning this conference the League of Women Voters has been actuated by a belief in the potential value of such a gathering as a factor in the promotion of lasting international friendship, and this belief is shared by many people to whose attention the plan has been brought. Among them is Dr. L. S. Rowe, Director General of the Pan American Union, whose interest and cooperation have been very greatly appreciated by the officers of the League. Dr. Rowe, speaking of the conference, says:

While there have been a number of movements to bring about cooperation between the nations of the American continents, they have been confined almost exclusively to cooperation among men.

A notable step in the cultivation of closer ties between the women of the American continent was taken at the Second Pan American Scientific Conference, held at Washington in 1915. At this international meeting a women's auxiliary conference was held. The sessions proved most stimulating and of deep interest to the women of all the Americas and, as the result of this conference, a permanent women's auxiliary committee was formed which has kept in touch with the leaders of thought and action in the Latin American countries.

The conference planned by the National League of Women Voters will be a further step in the same direction. I feel certain it will have a definite and lasting educational value in the United States, making known to our people the important results which the women of the Latin-American countries are now securing both in the enlargement of their civil rights and the strengthening of their civic activities.

In coming to the United States the Latin-American women will derive profit and inspiration from the great results which American women are now securing both in the betterment of our political life and in the furthering of our civic development. This conference is likely to be one of a series which will serve the twofold purpose of making the women of the American continent better acquainted with their common aims and ideals, and at the same time strengthening the spirit of solidarity on the American continent which has to-day become the most important guarantee to the maintenance of the peace of the world.



CARTAGO, COSTA RICA

AS A HEALTH RESORT

By W. W. GOULD.

“CARTAGO! Oh, yes; that is the city, somewhere in Central America, that was destroyed by an earthquake a few years ago”

Nevertheless, contrary to logic and without apology, Cartago still *is*. Not only *is*, but is a larger, better, safer, and more popular resort for health and recreation than it was before it was destroyed by earthquake a decade ago.

“Colossal stupidity,” continues the man in the street, “to stay on, living in a place that is apt to turn turtle any minute.”

To those who do not know Cartago and vicinity at close range it is quite incomprehensible. It is the way with men and ants. Destroy their cities and nests and when you pass again they are bigger and better than before. San Francisco, Galveston, Chicago, Cartago bear witness.

Cartago is for the same reason it was. It will continue to be for the same reasons; and it will be much more important for several additional reasons, not the least of which is the publicity given its virtues by business builders, tourists, and health seekers returning from visits to this acme of climatic perfection.

The lure of petroleum, recently discovered a few hours' ride from Cartago, the ever-widening search for beautiful tropical woods, the quest for foreign markets for our increasing manufactures, the improved facilities for convenient travel, the canal, the triumph of science over tropical plagues, and finally the eternal, inevitable march of emigration of the Anglo-Saxon, now deflected toward the South by the Pacific barrier—these are among the new causes that will insure the permanence and growth of Cartago and vicinity.

The outstanding reasons for the existence of Cartago, originally, were soil and climate. The soil of the great central plateau of Costa Rica is very rich and diversified. The climate is so tempered that almost any agricultural product of the Temperate or Torrid Zones can be raised within carting distance of Cartago. The productivity of the soil in this vicinity is truly wonderful, even with the primitive methods now in use. With the application of modern intensive methods, it is difficult to imagine the results that might be obtained.

The system of marketing in vogue here is commendable. In the mercado (public market), a building occupying an entire block and divided into stalls and aisles similar to a church fair, may be found a most bewildering variety of fruits, vegetables, meats; articles of home manufacture, such as bread, pastry, cheese, butter; utensils made from gourds and woods peculiar to the tropics, pottery, basket-work, hammocks, leather goods, and a hundred other things that



Courtesy of W. W. Gould.

ONE END OF THE MERCADO (PUBLIC MARKET) OF CARTAGO.

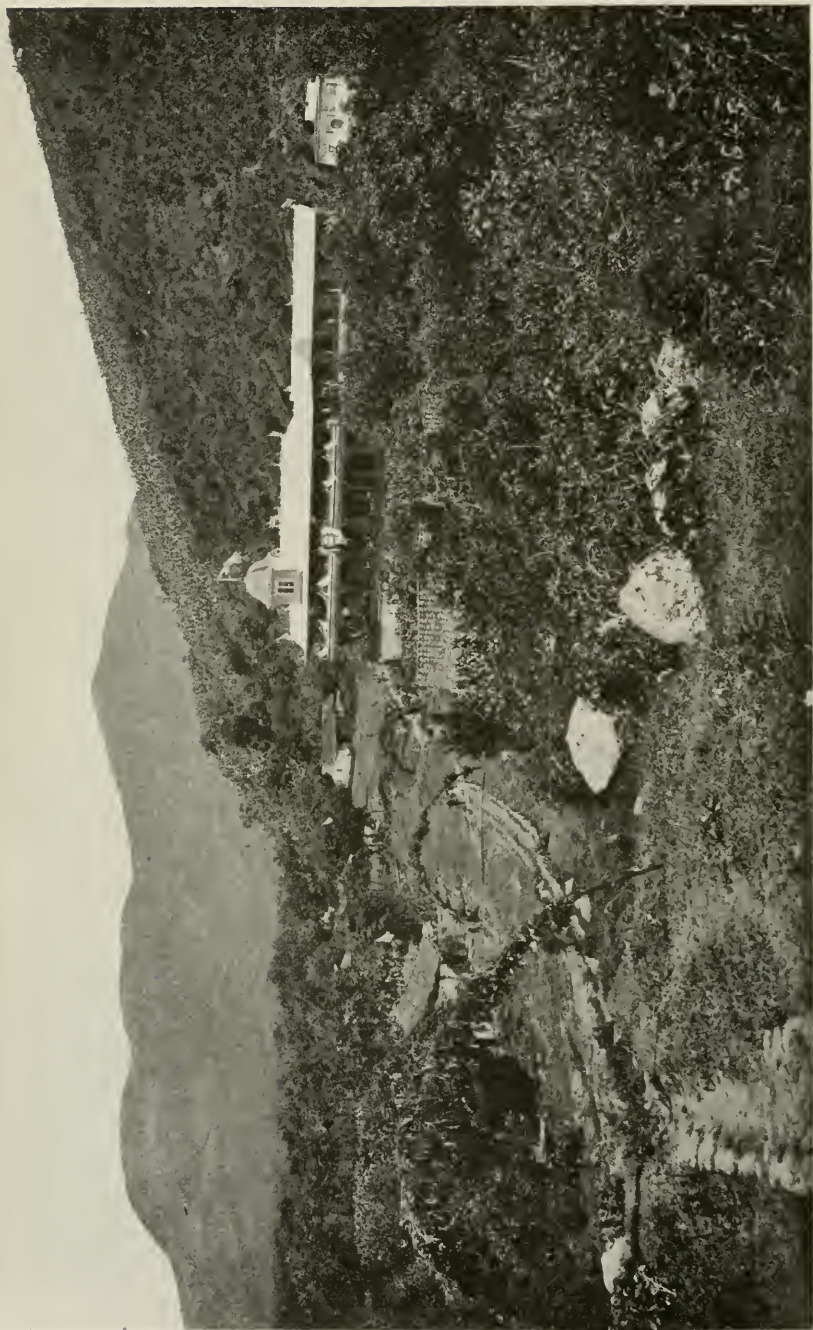
"In the mercado, a building occupying an entire block and divided into stalls and aisles, may be found a most bewildering variety of fruits, vegetables, meats, articles of home manufacture, and a hundred other things."



Courtesy of W. W. Gould.

THE MERCADO OF CARTAGO.

"Here daily the producer brings his wares to sell, and here the housewives and others of the city come every morning to get their fresh supplies for the day."



Courtesy of W. W. Gould.

THE BATHHOUSE AT AGUAS CALIENTES.

"Just in the outskirts of Cuzco, at Aguas Calientes, is a large hot spring that possesses, it is claimed, all the curative and corrective virtues commonly attributed to hot mineral springs. There is a bathhouse and equipment for the service of its patrons."

would require the language of the aboriginal inhabitants to name. Here daily the producer brings his wares to sell, and here the housewives and others of the city come every morning to get their fresh supplies for the day. The solution of our distribution problem working smoothly here for generations has proved its efficiency. You can get board in Cartago, of the same quality with superior service, for half what you would have to pay in any city in the United States.

This new-old city nestles in a pretty valley near the summit of the pass in the continental divide, through which passes the trancontinental railroad of Costa Rica. It is nearly 5,000 feet above sea level and nearly equidistant from the two oceans, where the width of the continent is only about 170 miles. It is a little over 10° north of the Equator. The variation of temperature during the year is about 25° , seldom going above 75° or below 50° . The trade winds from the northeast, wafting the moisture from the rapidly evaporating waters of the Caribbean Sea, supply sufficient rain for the gardens, yet not too much, for the elevation is sufficient to escape the heavy downpours common to the lower levels of the Atlantic slopes of tropical America.

Just in the outskirts of Cartago, at Aguas Calientes, is a large hot spring that possesses, it is claimed, all the curative and corrective virtues commonly attributed to hot mineral springs. The water contains iron, sulphur, magnesium, and other minerals in small quantities. Fresh from the spring it is just about as hot as one can bear to drink it. There is a bathhouse and equipment for the service of its patrons. It is situated in a picturesque little valley on the bank of a small river of clear cold water, and is a delightful place to visit.

The city water of Cartago is clear and cold as one would wish for drinking, and a cold shower in the morning is very invigorating. There is a spring in the city, over which is built a large old church, which is believed to have supernatural virtues. A large rock lies just over the spring, where a box has been provided for the convenience of those visitors who feel moved by charity or reverence or whatever motive to leave an offering of currency.

The mountain streams of the vicinity furnish abundance of power for electrical energy, which is furnished so cheaply that it is commonly used for cooking purposes instead of wood or coal. A five horsepower electric motor running 10 hours a day costs \$15 per month.

The vigorous visitor, of the red corpusele, will want to take a trip to the crater of Mount Irazu. This volcano is now active and is an impressive sight. Vapors and gas are pouring forth at all times and it occasionally gives a little extra puff of smoke and cinders for the benefit of the adventurer who is longing for a thrill. From the summit of this volcano, on a clear morning, the distant view is most wonderful. Turrialba on one side and Poas on the other, now extinct volcanos, stand as giant guardians of Irazu, while she busies herself in her task of relieving the superpressure of the earth's interior. The Atlantic on the east and the Pacific on the west are visible from



Courtesy of Sr. José M. Tristán, San José, Costa Rica.

THE CRATER OF MOUNT IRAZÚ.

“This volcano is now active and is an impressive sight. Vapors and gas are pouring forth continually with an occasional extra puff of smoke and cinders for the benefit of the adventurer who is longing for a thrill.”

the same spot. This is said to be the only point from which this is possible. The rivers to the north and east winding down to the sea, the ranges of peaks filing away to the southeast, the jumble of crests and valleys to the south and west present a picture to the eye of the observer which no camera can register and no pen can describe.

You start up the volcano at a very early hour, so as to be there before the mists begin to rise from the ocean to obscure the view. On the way up, a four hours' trip on horseback, you see very little but shadows, but as you return you find that the road is flanked nearly all the way to the summit with little farms of corn, potatoes, grains, and gardens. The soil is a black volcanic ash and very productive.

Halfway up the side of the mountain is a hospital for patients afflicted with tuberculosis. Here the patients, if not cured, spend their last days in a pleasant atmosphere. If strong enough, they get exercise and amusement working in the gardens and grounds about the hospital.

The social atmosphere about Cartago is quiet and friendly, especially to the Norteamericanos. The large majority of Costa Ricans are favorable to American industries, and a well-behaving American will find a friendly hand wherever he goes in Costa Rica. There are two theaters in Cartago, where the popular film stars twinkle just as they do in the rest of the firmament. In a very beautiful park an excellent band gives frequent concerts. There are several large churches, and the public schools, the patrons say, are very good.

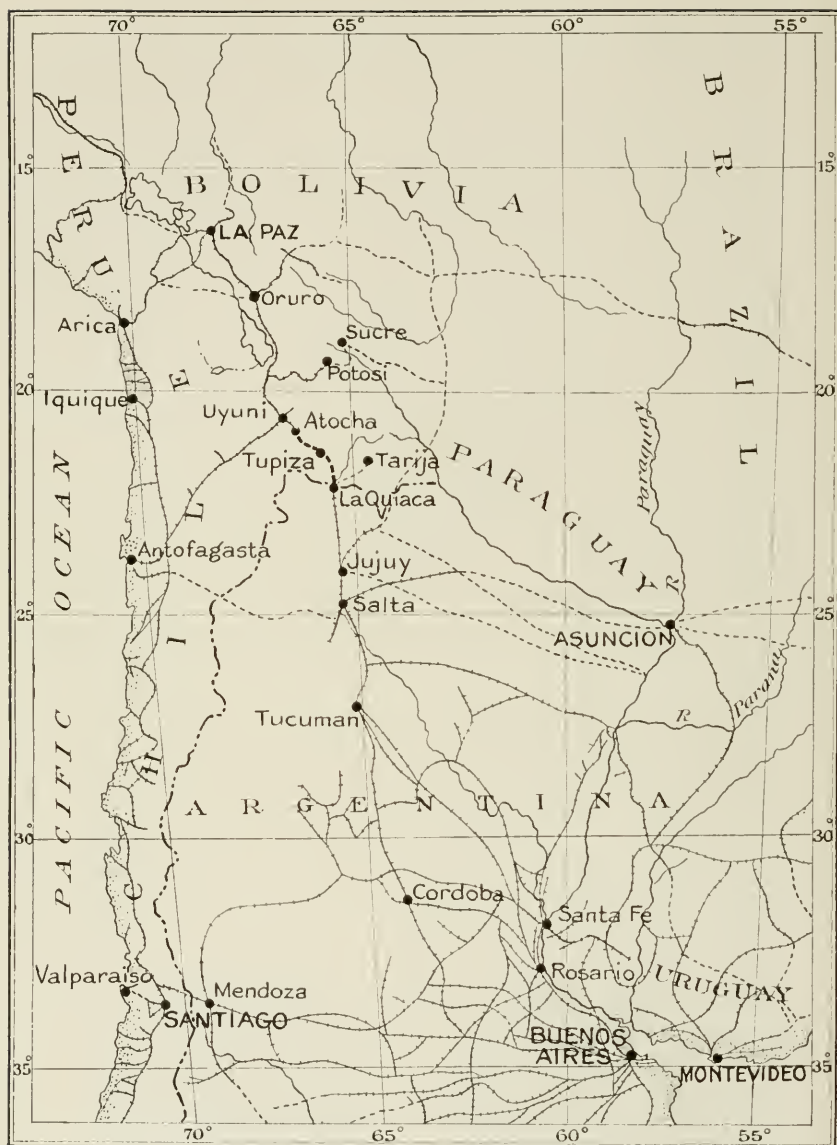
San Jose, the capital of Costa Rica, a city of 50,000, is about an hour's ride on the railroad from Cartago, and there is convenient train service between the cities. A good automobile road is nearly completed, which will furnish further convenience.

This year-round resort is easily reached. A weekly boat from New York to Limon, direct; a five hours' ride by rail through one of the most picturesque countries ever witnessed puts you in Cartago, the city with a *why*.



COSTA RICAN MEDAL STRUCK IN HONOR OF CENTENARY.

The government of Costa Rica has distributed medals in gold, silver, and bronze in honor of the one hundredth anniversary of its independence. The King of Spain, Presidents of the Central American Republics, and President Harding were recipients of the gold medal. The Minister of Costa Rica, Señor Dr. Don Octavio Beeche, presented the medal to President Harding at the White House September 27, 1921.



MAP SHOWING THE NEW RAILWAY LINE BETWEEN ATOCHA AND LA QUIACA

THE PAN AMERICAN RAILWAY IN BOLIVIA¹ ∴ ∴

By CARLOS TEJADA SORZANO.

THE Pan American Railway, which some day will connect Washington with Buenos Aires and whose main line, or branches thereof, will traverse all the countries of North, Central, and South America, is still, as a whole, unfinished. In reality only Argentina, Chile, and Uruguay have constructed their full allotment and are actually connected with the trunk line whose southern terminal is in Buenos Aires.

Much has been written with regard to the relative convenience and value of this road, as projected by the Intercontinental Railway Commission, particularly as regards the main route of this gigantic Pan American artery of communication; but it is a lamentable fact, however unwilling may be the acknowledgment thereof, that very little has been accomplished during the last few years in the way of effective construction. With the single exception of one republic in which the work has progressed to the point of completing her allotment, the majority of the remaining republics have advanced little beyond the stage of preliminary discussion and study.

The exception referred to is the Republic of Bolivia which, during the last 10 years, has constructed that part of the trunk line running from the Chilean frontier at Charana to Atocha on the line destined to connect at La Quiaca with the Argentine North Central Railway.

In 1910 the Bolivian section of the Pan American Railway consisted solely of two sections, disconnected and of differing gauge, the one between Guaqui and Viacha, with a length of 68 kilometers, the other between Oruro and Uyuni, with a length of 325 kilometers. But there is now actually completed, in one continuous stretch of 685 kilometers of the same gauge, the section between Guaqui on Lake Titicaca to Atocha, the latter point being only 204 kilometers from the Argentine frontier. In addition, Viacha has been connected with Arica, the port on the Pacific most advantageously situated with respect to Bolivia, thus completing a line of uniform gauge which will connect, equally well, the Bolivian Railway system with the Peruvian or Chilean.

¹ Translated from Sr. Sorzano's original article in Spanish.

The only remaining section of the Pan American Railroad to be completed in Bolivia is that between Atocha and Quiaca, a distance of 204 kilometers, the contract for which has recently been awarded to an American firm, the Ulen Contracting Co., by name. There is every reason, therefore, to believe that within a relatively short time Bolivia will have completed her share of this vast and effective plan of communication between North and South America, and that Bolivia will, in consequence, soon be in close contact with her northern and southern neighbors.

In reality the section referred to—between La Quiaca and Atocha—was under way as early as 1915, at which time the Bolivian Govern-



ATOCHA STATION, BOLIVIA.

The present terminal of the Bolivia Railway. The line will be extended from this point to La Quiaca.

ment contracted with a French company for a part of the construction; but, due to the war and other difficulties which have arisen in connection with the work in question, the rails have advanced but little beyond La Quiaca, although much of the important work, including long sections of cuts and fills, has been completed.

The importance of this section, however, does not lie merely in the fact that it is the last link in the Pan American chain to be constructed by Bolivia, but rather that these 204 kilometers will complete the Bolivian system of railroads and that they will open up a new trans-continental route in South America which will greatly facilitate the journey from the Pacific to the Rio de la Plata, particularly in point



THE PICTURESQUE CANYON OF THE RIO TUPIZA.

The hill at the right will be tunneled to permit the passage of the railroad.

of time, which will be appreciably reduced. As is well known, the only transcontinental route in South America to-day is that which connects Valparaiso with Mendoza and Buenos Aires. As the new Bolivian route just mentioned will, however, start from either Arica or Antofagasta, the journey from the United States to Buenos Aires will be reduced at least two days—the time consumed at present between Arica and Valparaiso. In addition, the new route will be free from the very serious inconveniences and interruptions not unfrequently connected with the passage in winter between Los Andes and Mendoza.



THE VALLEY OF THE RIO SUIPACHA.

This valley will be traversed by the Atocha-La Quiaca Railway.

The line between Atocha and La Quiaca presents no construction difficulties comparable to those which had to be overcome in the construction of the line between Los Andes and Mendoza, and its maintenance and management will not be nearly so costly because of its freedom from the inevitable obstructions and delays caused by the heavy snowfall in the upper sections of the latter, not to mention the heavy 6 per cent grade and the fact that, in long stretches on both the Chilean and Argentine sides, the switchback system is employed.

The line between Atocha and La Quiaca will nowhere carry a grade as heavy as 6 per cent, nor, although it crosses the Andes at Escoriani, a height of 4,350 meters above sea level and much greater than that of the highest transandine tunnel in the Los Andes-Mendoza line,

will it be scourged by the heavy snowfalls of the latter, since it will lie entirely within the Tropics and follow the course of sheltered valleys. Moreover, the completion of this line will provide, at relatively small cost, excellent communication between the northern part of Argentina and the salitrera region of northern Chile, in strong contrast to the present long and difficult route across the desert of Atacama, which is seldom achieved in much less than a month. It should be noted, however, that this route, difficult as it is and with an almost complete lack of water and provisions throughout, is, nevertheless, utilized with profit by the Argentine stockraisers who supply cattle on the hoof for consumption in the salitrera region.



ESCORIANI, 4,350 METERS ABOVE SEA LEVEL.

The highest point to be reached by the new railway.

The stockraisers of northern Argentina, in general, and particularly those in Salata, are very much interested in the construction of a direct railway route which will serve advantageously for this class of traffic and also for the direct importation of merchandise from the United States to the northern Provinces of Argentina through the port of Antofagasta; but the construction of such a route would be so costly and the region traversed so arid that should the road from Atocha to La Quiaca be constructed without delay, thus providing a continuous route of the same gauge from Salta to Antofagasta, connecting at Uyuni with the Antofagasta-La Paz International Railway, it may reasonably be hoped that the proposed direct line between Salta and Antofagasta through the desert of



VIADUCT OVER THE MATANZILLAS.



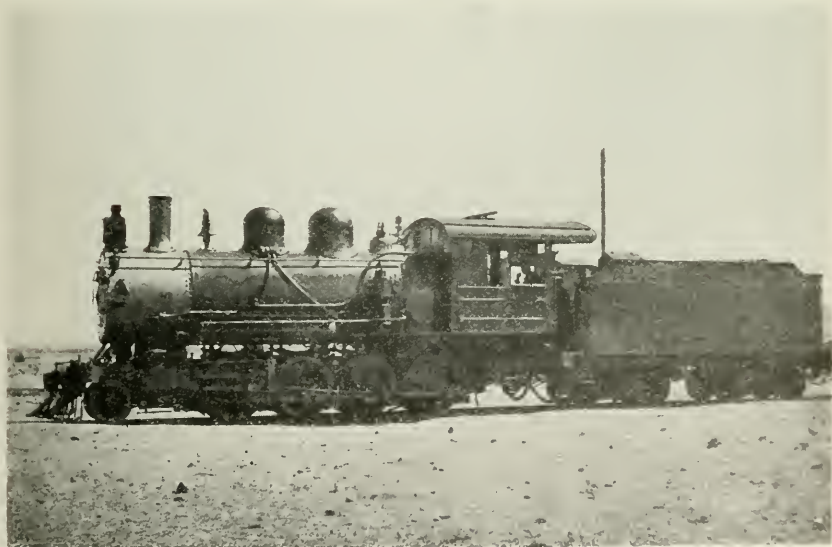
INTERNATIONAL BRIDGE SPANNING THE LA QUIACA RIVER.

This bridge on the Bolivian-Argentine border will carry the new railway line to its destination at La Quiata

Atacama will be abandoned, since it would not only be unnecessary but a waste of capital and effort which, in the interests of the respective nations involved, might be better employed.

Another interesting aspect of the line from Atocha to La Quiaca is that by means of this road Bolivia will not only have uninterrupted railway communication with La Paz and Buenos Aires but, because of its uniform grade, with all the most important Argentine Provinces and cities. Just as soon as it is completed communication will be effected between Arica in Chile; La Paz, Oruro, Cochabamba, Potosi, and Tupiza in Bolivia; and the Provinces of Buenos Aires, Cordoba, Santa Fe, Tucuman, La Rioja, San Juan, Catamarca, Salta and Jujuy in Argentina, utilizing for this purpose the tracks of the North Central Argentine Railroad or those of the Central Cordoba, which connect with Buenos Aires, and all of which are of 1-meter gauge, with a combined length of 10,000 kilometers.

As may readily be seen from the foregoing, there is no more important international railway project actually underway in South America than the line from Atocha to La Quiaca, in Bolivia, and it is therefore a matter of great interest to all those who follow the reciprocal vinculation of the American republics to know that the construction of this line is soon to be undertaken by a United States firm sufficiently strong financially to bring it to completion without difficulty and within a reasonably short period of years.



TYPE OF LOCOMOTIVE USED ON BOLIVIAN RAILWAYS.



Photo by Wide World Photos.

HONORABLE FRANKLIN E. MORALES.

Envoy Extraordinary and Minister Plenipotentiary of the United States to Honduras



COL. D. C. COLLIER, COMMISSIONER GENERAL FROM THE UNITED STATES
TO BRAZIL'S CENTENARY EXPOSITION.

Col. D. C. Collier, of California, has been appointed by President Harding as Commissioner General of the United States Commission for the participation in Brazil's Centenary Celebration, which is to be held at Rio de Janeiro in September 1922.

Mr. Collier has had previous experience in exposition matters, as he was for five years head of the Panama-California Exposition, held in San Diego in 1915, first as Director General and later as President. He has visited Brazil on a number of occasions.

THE VALUE OF SANITARY COOPERATION AMONG NATIONS . . .

By J. H. WHITE.

Assistant Surgeon General, United States Public Health Service, and Sub-Director, International Sanitary Bureau.

THE late Walter Wyman more than 20 years ago had a vision of the future good to be derived from a sanitary confederation of the American States, and out of this vision grew our international sanitary conferences.

These conferences have become, however, the end, and not, as was intended, merely the means toward an end of vaster importance. What should be sought by the usual aggregation of the best available talent of the American Republics attending the conferences is permanent betterment of our international sanitary relations, and not, as now, a mutual exchange of reports on sanitation and demography in our respective lands with nothing done between meetings.

A good step forward was taken by the Sixth Conference when recommendation was made that each country should appoint its delegates to the seventh conference (at Habana) at least one year before the assembling of that conference, and that a bulletin should be provided for by larger appropriations.

A far better result could be attained were each nation to maintain a permanent delegation, not limited to the one or two who shall attend the conference, but consisting of at least five of its best sanitarians, with authority to convene and, after deliberation with their own national health authorities, to discuss questions of international import between regular conferences, so that upon the assembly of the regular biennial conference a well-thought-out program of things practicable and legally possible will be available on any and all subjects.

It would be well if these national delegations might also have authority to select the man or men of their own number who should attend the international conference.

An essential part of such a program is of course that each nation shall provide not only its quota for the support of the International

Sanitary Bureau at Washington, but also a sufficient amount to defray the expense of its permanent delegation.

These delegations could exchange opinions with each other to the great benefit of all and, in many instances, the matured results of many months discussion between two or three national delegations could be finally disposed of by the general conference with the best possible results to all.

The original and fundamental idea of these conferences was the intent to arrive at such full and frank understanding as to justify the removal of a large part of quarantine restraint.

This goal has not been attained and can hardly be attained through the medium of disjointed biennial assemblies which, although excellent in themselves, always tend to assume the nature of great medical society meetings rather than serious congresses of national representatives.

These conferences were intended to bring about cooperation in all sanitary work, and to be effective they must have submitted to them well-thought-out plans, and must have as delegates men whose personalities are such that their recommendations will be heeded by their lawmakers at home.

Plainly stated, unless the findings of the sanitary conferences can be ultimately translated into law in our respective Republics, the results will not be satisfactory.

If we are all prepared, without reservation in any case, to be absolutely frank in reporting our sanitary conditions, and if each State extends to all others the privilege of maintaining sanitary representatives within its borders, it should ere long be possible to translate the conclusion of the international sanitary conferences of the American Republics into actual statutory law in all our Republics.

The ideal status would be that, exactly as we now maintain military and naval attachés in our embassies and legations, each nation should send to its legations the best of its sanitarians as sanitary attachés. Instead of watching the other nation's military preparedness, we would do infinitely better to watch with friendly eye its advances in conservation of human life and, instead of a covert menace, be an open friend and coadjutor.

With such conditions existent each nation would be fully and promptly apprised of anything of value developed by any other in the great work of saving human life and the important work of removing unnecessary hindrance from business; and let us never forget that he who fosters safe conditions for commerce also fosters health and happiness for his people.

The final result of such an arrangement would inevitably be the same sort of freedom of sanitary intercourse as now exists between

the States of the American Union and, though it might not come quickly, it would, if based on absolute sincerity, be permanent and of a value beyond calculation in money and in comfort.

May we not say also that this result would go a long way toward the establishment of such feelings of good will between our peoples as to lay a very broad foundation for that Interamerican peace and friendly understanding which is the constant objective of all true Panamericans?

It is believed that the hour has arrived when all the world is awakening to the need for sanitary betterment. All are recognizing that typhus fever, yellow fever, malaria, smallpox, plague, cholera, leprosy and many other diseases need not exist at all if man will apply to their destruction one-half the energy and one-tenth the treasure he has heretofore applied to the destruction of his fellow man; and, further, it is beyond dispute that the elimination of all that class of diseases known as "quarantinable" demands absolute cooperation.

If each and all will now pull together it can be done and it will be done, and no nobler accomplishment can be conceived than the actual sanitary cooperation of Pan America.



CERTAIN GEOGRAPHICAL AND BOTANICAL PARAL- LELS ∴ ∴ ∴ ∴ ∴ ∴

BETWEEN THE AFRICAN AND SOUTH AMERICAN
TROPICS.

By S. P. VERNER.

THE lines of certain investigations made by me during a period of 25 years in both the African and American Tropics have crossed certain other lines pursued by scientists in the Department of Agriculture and elsewhere in this country, with results of profound importance to the development of unassimilated tropical lands. I summarize these investigations and results here for the first time.

It is well known to those interested in the subject that the Tropics have contributed amazingly little to the food supply of the world, when one considers the enormous extent of tropical territory, the high fertility of the soil, and the favorable climatological conditions in most of those regions. The ultimate potentialities of the Tropics as a source of human food was set forth in a remarkable document addressed to me by the late Dr. W. J. McGee, which was read at the time by Mr. Walter Page, and pronounced by him to be the most splendid epitome of tropical possibilities he had ever read. Dr. McGee had been a president of the National Geographic Society, head of the Bureau of Ethnology, one of the most distinguished members of the United States Geological Survey, and secretary of Mr. Roosevelt's Conservation Commission. He was the principal promoter of my second African expedition, and a devoted and intimate friend until the day of his death. I derived much of the inspiration, and a great deal of suggestive counsel in my work in Africa and Latin America from him. After 14 years devoted to Africa, I went to tropical America, with the original purpose of observing the methods of tropical sanitation used by Gen. Gorgas, and of making a comparative study of the two Tropics. These latter undertakings, together with duties imposed by the war, occupied 11 years. During all of the whole 25 years, botanical observation and agricultural experimentation occupied as much of my time as I could devote to it from a strenuous life of exploration and specific undertakings.



Courtesy of The Geographical Review.

VIEWS IN THE ORINOCO COUNTRY.

"The Orinoco is a smaller American Nile."

Upper: Above the Atures Rapids, showing the savanna vegetation.
Lower: A lagoon in the llanos or prairie section of the Orinoco region.



Courtesy of The Geographical Review.

THE RIO CUNTUCUNTUMA, A TRIBUTARY OF THE ORINOCO.

It is well to sketch this résumé into four distinct divisions: First, the character of tropical lands; second, the aboriginal agricultural practices in the undeveloped equatorial and adjoining regions; third, the suggestions involved in certain recent conclusions of some scientific experts; and fourth, the results of the combination of my observations and these latter conclusions.

Broadly speaking, there is a striking geographical and botanical parallel between the two Tropics, both in major and minor features. The Orinoco is a smaller American Nile, the Amazon is a larger American Congo. The Magdalena is a smaller American Niger, and the Rio de la Plata is an American Zambesi. The minor mountain ranges of South America and Africa are both near the Atlantic; both are metaliferous, granitic, diamondiferous and are the cause of the precipitation enjoyed by the coastal plains in each continent. The major axes of elevation in each case are nearer the Indo-Pacific Oceans. There is a difference of only a few thousand feet between these major elevations. The greater rivers rise in each case in these axes, the elevated grassy plateaus of each continent are inclosed between these major and minor mountain ranges, and the courses of the great rivers under the Equator in each Continent determine vast riparian forests, which are now the most extensive untouched timbered lands in the world. In each case, the major mountain axes are responsible for the heavy precipitation which support the vast volumes and give rise to the annual floods in the Orinoco, the Amazon, the Nile, and the Congo.

The minor features present equally striking similarities. Along the equatorial belt in each Continent it rains almost all the year round over a distance of approximately 150 miles on each side of the Equator. Then over a region of about 700 miles to the north and south, respectively, of this belt there is a dry and a wet season. North of the belt, the dry season begins about the first of the year, and ends about the middle of May; south of it, the rainless period begins about the first of June, and extends until the middle of the fall. The almost perennial rains over the equatorial belt maintain the enormous volumes of the Amazon, the Nile, and the Congo, while the seasonal rains over the watersheds of some of their tributaries cause their annual inundations. This fact will be ultimately of enormous utility to the development of the regions watered by these mighty rivers, because it insures a fixed minimum of water in them all the time, while supplying a periodic overflow available for irrigation in the dry seasons. Thus the tremendous areas dominated by these streams will always possess, somewhere, the advantages of both systems of water supply—constant rains for arboreal vegetation, and artificially controllable water for types of vegetation best



FORESTS ALONG NORTHERN RIVERS OF SOUTH AMERICA.

Upper: A forester's expedition crossing a rapid stream of the Magdalena system in Colombia. Center: A forest in the delta of the Orinoco. Lower: Stilt roots of the mangrove tree along the Orinoco.

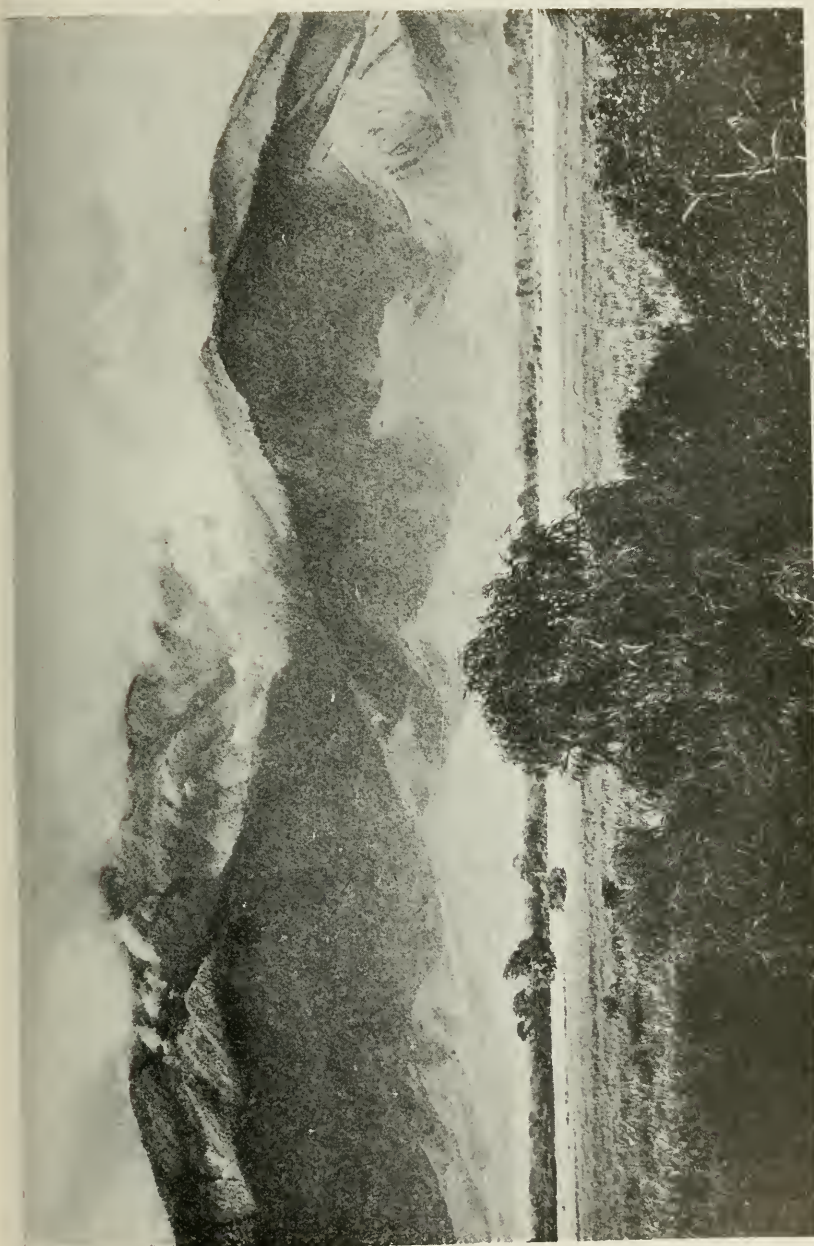
developed under it, such as cotton, hemp, rice, and garden truck. The oil and raphia palms and the rubber trees of the Congo and the Amazon are illustrations of the arboreal types induced by perennial rains; the long-staple cotton of Egypt, the peanuts of West Africa, and the maté tea shrub and the cassava of South America are illustrations of plants admirably adapted to irrigation.

Another common minor feature is the alternation of forest with grassy plains. I believe I was the first to call attention to how Stanley went through the agony of fighting through the Aruwimi Forest on his Emin Pasha relief expedition, when, all unknown to him, there were open grassy lands only a few miles away paralleling nearly all of his trail through the jungle. The regularity of this alternation of river forest with upland plains in Central Africa may be said to be the fundamental botanical feature over more than 3,000,000 square miles. In South America, a strikingly similar condition exists. The practical importance of this feature of both Tropics lies in the fact that rail and automobile roads may avoid the heavy forests by skirting the edges along the plains throughout the major part of millions of square miles. It may be remarked in passing that this fact has been known and acted upon by the natives in locating their towns and trails for ages past. Landings for airplanes may also be easily arranged upon these inter-riverine plains.

Another common feature is the part played by fogs in the dry seasons. These are caused by the evaporation from the lakes and rivers, extend out from them to a distance proportional to the extent of the water surface, and help to maintain the forest vegetation during the dry months.

Another characteristic of the two regions is the heterogeneity of the vegetation. Instead of dense masses of one or a few types such as pines or hardwoods, which so often characterize colder regions, a single acre in both Tropics may contain hundreds of species of plants, from the lordly baobab or cuipo to the humble *lissochilus* or *sobralia*.

The last common feature to be mentioned here—and there are many more—is the acidity of the soil, and this is the keynote of this article. Generally speaking, the soil of both the African and American Tropics is highly acid. While there are large deposits of limestone in both regions, notably near Livingstone Falls on the lower Congo and in the region of the great African lakes, and in many parts of the Amazon Valley, it may be said that there are no vast alkaline regions in either of the Tropics comparable to those found in the western part of the United States. The alkaline deserts of Chile and southern Peru are inappreciable in extent compared with the whole area under review. There are also local calcareous deposits in all the South American countries, notably in Panama, and where the extensive coral reefs border the oceans. But most of the great



Courtesy of the American Museum of Natural History.

THE SLOPE OF THE CENTRAL ANDES.

“The minor mountain ranges of South America and Africa are both near the Atlantic. The major axes of elevation in each case are nearer the Indo-Pacific Oceans. There is a difference of only a few thousand feet between these major elevations. The elevated grassy plateaus of each continent are inclosed between the major and minor mountain ranges.”

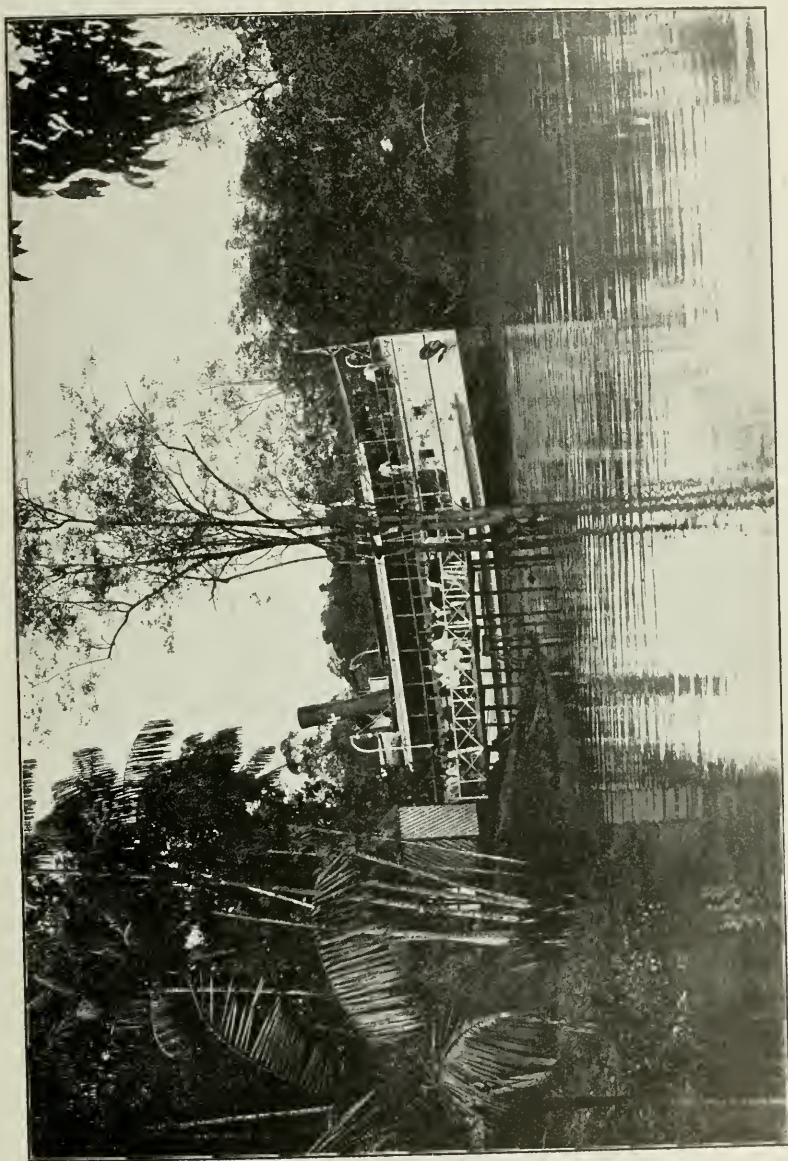
forest regions, as well as the grassy plains, exhibit an acid reaction. This is due partly to geological causes which lie outside of this discussion, and also to the dense mat of evergreen vegetation.

Recent investigations, especially those of Dr. Coville, have shown the important part played by primeval vegetation in producing and maintaining acidity in the soil. While it is true that thoroughly decomposed humus, even on noncalcareous soils, may exhibit a certain degree of alkalinity due to the lime content of vegetation, the constant accretion of fresh leaves, grass, and other acid materials, keeps the upper layer acid.

This explains an aboriginal practice that puzzled me for many years until I found the key to it. The African natives, both at home and in tropical America, follow the invariable practice of burning off newly cleared fields, and of making new fields every year or so, rather than of continuing to cultivate the clearing once made for any considerable number of years. When I first went to Africa I tried to break up this practice, but met with the most emphatic and universal resistance. The natives said they could not make good crops except on recently cleared and burned over land. They proved that they were right. I tried many times to grow crops on forest land without burning it, and on the grassy velt by turning the grass under. But I failed repeatedly, and at last turned over the job to the Baluba, and let them have their way.

The reason is simple. Burning the new grounds afforded ashes and other alkaline substances, and also destroyed temporarily much of the superficial acidity. I have seen splendid crops of beans, corn, pumpkins, and rice grown on bare red clay from which practically all of the vegetation and humus had been burned off. I have also seen rich bottom lands and valleys with several feet of humus fail to raise anything worth mentioning when I, or other white men, tried to make gardens there without burning it.

Ignorance of the principles involved was almost tragic during the time of the construction of the Congo Railway. With an abundance of lime in sight of the right of way, both the Belgians and their black laborers suffered greatly from the lack of fresh vegetables, which might have been easily raised if the limestone had been burned and applied to the soil. Early attempts at gardening were such ludicrous failures, that they were abandoned in favor of tin cans and a scorbutic diet. In most parts of the Congo Valley canned vegetables have been staple imports for the last 30 years at a cost for transportation alone of between 10 and 25 cents a pound. The large elevated plateau in the Lake Kivu region, where a territory as large as the State of Maine lies between seven and ten thousand feet above sea level, is climatically adapted to many north temperate crops, but nothing has been done on it, largely because of the acidity of the soil.



A TYPICAL VIEW ON THE AMAZON RIVER AND ITS TRIBUTARIES.

“The Amazon is a larger American Congo The courses of the great rivers under the Equator in each continent determine vast riparian forests, which are how the most extensive untouched timbered lands in the world.”



Photograph by W. V. Alford.

THE CAVING BANKS OF THE AMAZON.

Mile after mile slides into the water as the channel changes from side to side. "The almost perennial rains over the equatorial belt maintain the enormous volumes of the Amazon, the Nile, and the Congo."

Tropical America has had a similar history. The very high plateaus of the sub-Andean regions produce few European foods, except corn and Irish potatoes, both of which are fortunately adapted to acid soils. The most interesting exception to this general rule is in the country around Bogota.

The high country around the capital of Colombia has been made to produce some grain and vegetables for local consumption, largely because its early settlement led to sufficiently long cultivation by the Spaniards to reduce the original acidity of some of the soil, while other tracts contain original lime in the soil similarly to that found by the early settlers of parts of Kentucky. It must be understood that fairly long cultivation reduces acidity by keeping down the accession of the natural vegetation. For example, an Irish potato field on an acid soil in the highlands of South America will produce fine crops for several years, and then wheat may be grown on that field, when wheat would have been a failure if planted immediately after the first clearing.

Neither during the French nor the American occupation at Panama did the local production of European foods play any considerable part in the economic life of the region. This was partly due to the pressure of food-exporting firms in France and the United States, partly to ignorance on the part of local landowners and the rest of the community about the influence of soil acidity, and the resultant failure to use the abundant lime deposits near the canal.

Of course even the reduction of soil acidity to the point where European food plants could flourish except for the climatic differences would not enable the production of all of those crops in the Tropics. But the point of importance in this connection lies in the fact that throughout the warm belt in both continents, there are plenty of high mountain plateaus where such crops could be raised but for the acidity of the soil. Such unused plateaus are, for example, within 250 miles of the Panama Canal, within 150 miles of the main stream of central Congo, and all along the upper reaches of the Amazon.

Europeans settling in the Tropics either gradually adapted themselves to the tropical diet, or built up a trade in imported foods from their mother countries. It is still a debatable question as to whether the former practice may not have had something to do with the alleged physical degeneration of the white man in the Tropics, while the latter alternative increased the expense of living, and proportionately retarded effective occupation, it also produced the evils incident to living upon preserved foods transported for a long distance and kept for considerable periods in storage. I have known cases where traders and missionaries, for 10 years after their settlement



Courtesy of S. P. Verner.

A CLEARING FOR A RAILWAY LINE IN CENTRAL AFRICA.

“A characteristic of the two regions—tropical Africa and tropical America—is the heterogeneity of the vegetation. Instead of dense masses of one or a few types such as pines or hardwoods, which so often characterize colder regions, a single acre in both Tropics may contain hundreds of species of plants.”



Courtesy of S. P. Verner.

THE HISTORIC STANLEY BAOBAB AT BOMA, AFRICA.

there, paid 40 cents a pound for orange marmalade laid down in central Africa, when orange trees and sugar cane could have been grown in their back yards. If they were thus indifferent to the possibilities of purely tropical agriculture, it may be easily seen how little inclined or able they were to promote the production of the non-tropical kind where such was possible.

The important points brought out by the investigations of Dr. Coville and others in recent years are, first, that the use of lime may be extended with great profit to many acid uplands and areas not hitherto considered as requiring neutralization; and, second, that where the expense or inconvenience of lime application is too great, certain acid-resistant (or acid-loving) crops should be preferred until the land, through cultivation and drainage, may cease to be too acid. These two conclusions represent the painstaking labors of many years, and simple as they may appear, they may become the turning point in a great world-wide agricultural revolution. Their implications and corollaries are too numerous and far-reaching to be discussed in detail here, but I am convinced that they are thoroughly sound, and of the utmost importance to the development of new lands everywhere, and especially in the Tropics.

My investigations for nearly a generation past in the Tropics not only confirm the above conclusions of investigators in America, but cause me to predict that if they are applied to tropical regions, highlands and lowlands, the volume of crops demanded by Caucasian requirements will be enormously multiplied. For example, cotton, which has hitherto been a failure in the Tropics, would take its throne far to the southward. I may remark in passing, however, on this point, that there is another requisite to the successful production of cotton in the Tropics, the discussion of which lies outside the province of this article. A million square miles would be added to the wheat lands of the world. Vegetable oils from peanuts, palms, and cotton seed could be depended upon in the day when petroleum begins to fail. Many of the white man's best loved garden vegetables—cabbage, onions, beans, peas, spinach, and other vitaminous green stuff—would flourish alongside the banana and the pineapple. In short, when the white man learns how to kill acidity in the soil of the Tropics as well as he has learned how to kill mosquito larvæ in their waters, or when he becomes as skilled in adapting crops to soil there as he is fast becoming in the adaptation of his physiological reaction to special tropical diseases, the really effective Caucasian occupation of the tropical world will begin.



LITTLE KNOWN BUT COMMERCIALY IMPOR- TANT TREES OF THE WEST INDIES

By C. D. MELL.

THE MAMMEE APPLE OF THE WEST INDIES.

THE term mammee is derived from the aboriginal name momin, and is now variously spelled and pronounced. The tree producing this important tropical American fruit is also referred to as toddy tree or wild apricot by the English-speaking people. The French call it the abricot or abrocotier and the Portuguese abrico de Para. There are several varieties of these mammee apples growing all over the American tropics, where they are called by different names, but the one known best to the botanist is *Mammea americana*.

The tree grows to be from 30 to 60 feet high, and is planted more or less widely in good rich soil all through the Tropics and as far north as Palm Beach, Fla. It has been introduced also into the tropical parts of the Old World, because of its fruit, which is very much esteemed in all warm countries. Although the tree is more or less ornamental when young, on account of its large beautiful dark green leaves and its showy fragrant white flowers, it is rarely planted in yards or gardens as a decorative feature, because the tree becomes stag headed or shows a number of dead branches relatively early in life.

The fruit varies from oblate to round and is from 4 to 6 inches in diameter. Under favorable conditions it attains the size of a child's head. It has a more or less rough, russet-colored, pliable leathery skin inclosing a yellow, sweet, aromatic pulp in which are from one to four large triangular seeds. The outer leathery rind is about one-eighth of an inch thick, and may be removed from a second or thin inner skin that adheres very closely to the pulpy portion of the fruit. When the rinds are cut while green a bright yellow mucilaginous juice exudes. The inner rind is generally considered mildly poisonous and often produces colic when eaten by children. The



AN OLD MAMMEE APPLE TREE.

"The tree grows to be from 30 to 60 feet high, and is planted more or less widely in good rich soil all through the Tropics and as far north as Palm Beach, Florida."

pulp normally adheres very closely to the seeds, which are often as large as hens' eggs.

The pulp is bright yellow and quite juicy, though firm in texture being sweet and somewhat aromatic, remotely resembling the true apricots of the temperate climate. To the northern traveler in the Tropics who tastes the fruit for the first time it has a more or less soapy or even a tarry flavor; others say that the flavor is not unlike that of molasses. The fruit is highly relished by the natives of the Tropics, and if the best varieties were placed in the northern markets a good demand could doubtless be created, for when the rich yellow, juicy pulp is sliced and served with wine, or with sugar and cream, it has almost no equal and is generally esteemed. In Europe it is usually preferred in the form of sauce, preserves, or jam. The fruit is used also as a source of alcohol.

The flowers of the mammee apple yield by distillation an essential oil used in liquors under the name of eau de creole. The bark when cut yields a yellowish gum or resin, called *resina de mamey*, which is used by the Indians as a cure for itch and to prevent chiggers from attacking their feet. The bark contains tannin and is regarded as being slightly poisonous.

THE IMPORTANCE OF THE HORSE-RADISH TREE.

The horse-radish tree, or the *Moringa pterygosperma* of botanists, is an important species growing naturally in the region of the Himalaya Mountains and southward, but now introduced and growing wild in practically all parts of the Tropics. It is most highly esteemed in India, where all parts of the tree have relatively important uses; in the West Indies the merits of this tree have not become so well known and very little use is made of its seeds, bark, and roots. In India few trees are more generally cultivated, and yet the products of the tree rarely enter into the foreign trade, because all the available supplies are sold and consumed locally.

It is a singular tree, having the general appearance of trees related to the logwood or locust tree, but differs markedly in the character of the fruit and seeds as well as in the uses and properties of the wood and bark. It is rarely over 25 feet high and from 6 to 10 inches in diameter at the base. The bark is corky, the wood soft, roots pungent, and all the young twigs and leaves soft and hairy. The fruit is a long whiplike bean or pod from 9 to 18 inches in length and usually 9 ribbed, containing three-cornered seeds winged at the angles.

The wood is said to have been used in Jamaica for extracting the dye, but there appears to be no real commercial importance to this use. Further experiments along this line may yield interesting results, however; the trunks of the trees are too small and the wood too soft to be of much use for other purposes. The bark contains



THE FRUIT OF THE MAMMEE APPLE TREE.

"The fruit varies from oblate to round and is from 4 to 6 inches in diameter."



THE MAMMEE APPLE, SHOWING THE PULP AND ONE SEED.

"A yellow, sweet, aromatic pulp in which are from one to four large triangular seeds."

tannic acid used in parts of India for tanning leather; the tree is considered too valuable, however, for other purposes, and its use in this connection could not be encouraged unless some important use could be found for the wood. The bark also contains a valuable gum and a fiber used in making mats, coarse paper, and cordage. The roots of young trees when scraped do not look unlike those of the horse-radish and they have exactly the same taste and use. It is on this account that the tree has been given the name horse-radish tree. In India it is eaten extensively in the same way that horse-radish is eaten in this country. It is pungent and astringent, and the juice from the root bark has been used in India also in medicine.

The seeds of this tree constitute the most important product. They are about as large as a full-grown soya-bean, with three prominent wings, and are called ben nuts, because they yield by pressure the well-known and highly prized ben oil so largely used by watch-makers. This oil has long been known as the best lubricant for the finest machinery. It is far superior to that of the castor bean, and a supply

of this oil was sought during the late war by those in charge of aviation. As a result of this demand these seeds were quite extensively collected in Haiti, Porto Rico, and other West Indian islands, where the horse-radish tree has widely escaped from cultivation.

The seeds yield from 30 to 35 per cent of a clear, limpid and almost colorless oil that is rather thick at ordinary temperatures and has



A HORSE RADISH TREE GROWING IN DRY, ROCKY SOIL, PETITI GOAVE, HAITI.

"Its cultivation could be made a profitable industry, since the tree grows so rapidly under almost any soil condition in any part of the West Indies."

almost no odor or flavor. It saponifies very slowly and does not turn rancid. It is often used as a salad oil in the West Indies, and owing to its great power of absorbing and retaining even the most fugitive odors, it is highly esteemed by perfumers as a base in the manufacture of perfumery.

It seems remarkable that a plant with so many important uses as the horse-radish tree is not more generally cultivated in our near-by Tropics. Its cultivation could be made a profitable industry, since the tree grows so rapidly under almost any soil condition in any part of the West Indies, where the cost of labor remains relatively low. By giving this tree the attention it deserves a profitable industry could be developed and maintained at a very small expense and little trouble. The tree may be propagated by seeds or cuttings and will thrive in almost any soil where other trees will grow; in fact it is found close to the sea, where the roots come in contact with brackish water, as well as on the rocky and well-drained hills and mountains. It appears to attain its best development in and around towns and cities, but will grow and produce annually an abundance of fruits and seed which are easily gathered and readily marketed.

EAST INDIAN WALNUT.

The East Indian walnut (*Albizzia lebbek*) is not a true walnut, but belongs to the leguminous family of plants, being closely allied to our common black locust. The true walnut of India is the same as the so-called English or Circassian walnut (*Juglans regia*) which is used so largely in this country for making furniture and interior trim of fine residences. The East Indian walnut of commerce is known in the English and American markets also as koko or kukko, but in India it generally goes under the name of siris. It must not be confused, however, with the wood that is now shipped into this country from the Philippine Islands under the name of white siris (*Albizzia procera*).

Brandis in his Forest Flora of the Northwest and Central India states that this tree attains an average height of about 50 or 60 feet with a diameter of 2 to 3½ feet near the ground. The trunk is usually cylindrical and clear for at least one-third the total height of the tree; trees which were drawn up by bamboos and other trees, forming a dense undergrowth, invariably have long, straight trunks, frequently two-thirds of the total height of the tree. The crown is usually spreading, forming a broad, flat top, so that, in many respects, it resembles the well-known rain or saman tree of tropical America.

The natural distribution of the East Indian walnut is extensive, ranging from southern India northward through Bengal into the sub-Himalaya region, and thence westward to the Indus River, and ascending to an elevation of 5,000 feet. Its artificial range of growth has been widely extended by planting. It is an exceptionally fine



EAST INDIAN WALNUT TREES IN BARBADOES, B. W. I.

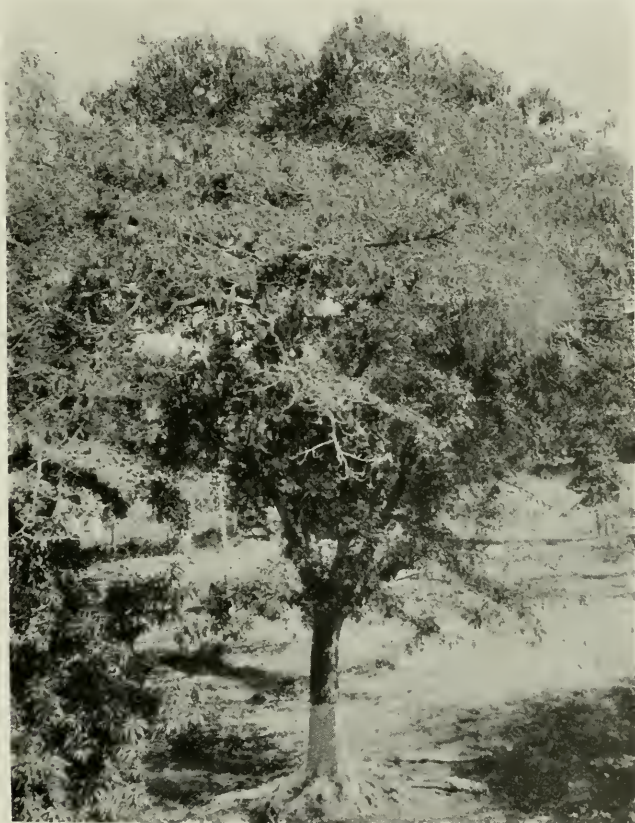
"Over 100 years ago the tree was introduced into Cuba, Jamaica, and several other islands of the West Indies, where it has now become thoroughly naturalized."

tree for shade and ornamental planting, and for this reason it has been introduced into practically all parts of India and to a lesser extent into Egypt, Mesopotamia, Afghanistan, Africa, Australia, and tropical America. Over 100 years ago the tree was introduced into Cuba, Jamaica, and several other islands of the West Indies, where it has now become thoroughly naturalized. It has become recognized as a splendid roadside tree, and many beautiful koko avenues may be seen in tropical America. In Jamaica the tree is known as fry tree or fry wood, in Barbados as woman's tongue, and in Haiti as cha-cha.

The wood was first introduced from India into the English markets about 30 years ago, when about 4 tons were shipped, with a cargo of padouk, to London, where it is said to have found a ready sale among walnut users, and for this reason it has come to be known as walnut, in place of which it was first used. Although it is considerably heavier than black walnut, weighing approximately 64 pounds per cubic foot, the shipments steadily increased and the wood became well known as a desirable furniture and interior finishing material. The sapwood, which is nearly white, is usually wide, often occupying nearly one-half the radius. This portion of the log is generally not available and is cut away before the logs are shipped to market. The heartwood is dark reddish brown, darker, nearly black bands alternating with bands of lighter color. Although the wood of different logs varies greatly in color, it possesses a fine veining which runs curly at times. On an average, it may be described as having approximately the same color and the same range of figure as our black walnut. It does not possess a high degree of luster, and the straight-grained wood has a somber tone, which would not compare even with the medium or inferior grades of the Circassian walnut. The East Indian walnut burrs, like those of any other fancy wood, increase in value with the intricacy and rarity of the design and size of the burr. The price of such burrs, which are invariably sliced up into veneer, is frequently 10 to 20 times that of the plain wood, and as much as a hundred times the value of the ordinary wood has been paid for extremely curious and unique burrs.

The mechanical properties of the East Indian walnut are in many respects superior to those of the black walnut. The wood is rather tough, fairly durable in contact with the soil, and seasons well without checking. It is said to take a better surface with less work than the American wood and can be worked equally as fast with the same ease. It requires less preparation by means of glass paper, because the wood is denser; but it requires more filling, since the pores are larger and more numerous than in black walnut. Polishing requires a good deal of time, because the soft or spongy tissue in and surrounding the pores absorb a good deal of the polishing liquids.

The uses of the wood are numerous in India, where it is much valued for sugar-cane crushers, oil pestles and mortars, furniture, well curbs, naves, spokes, and other wheelwright work. In southern India it forms one of the favorite woods for ship and boat building, and in the Andaman Islands it is used for general building purposes. In England and America its chief use is for furniture, interior trim, and for tool handles and other small articles. The wood is considered so valuable in India that the government has fixed a higher tax



AN EAST INDIAN WALNUT TREE IN HAITI.

The local name in Haiti is cha-cha, probably signifying chatter, alluding to the peculiar rattle of the seeds in the pods.

upon the felling of trees of this species than upon the well-known and valuable teak.

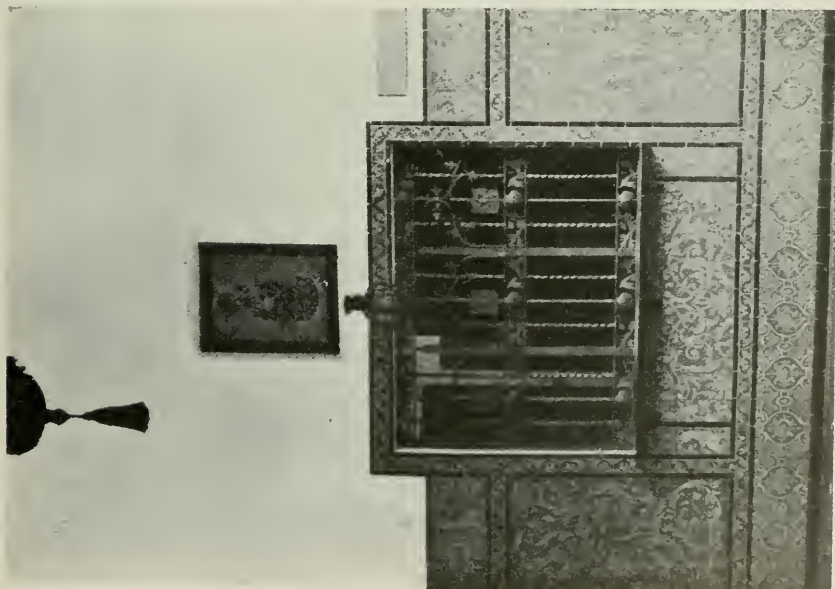
The wood now sells at prices ranging from 40 to 55 cents per cubic foot in the log form. The white siris from the Philippines and the East Indies, of which several shipments have been received in the United States for use as flooring, is somewhat cheaper, though it has the same color and nearly similar mechanical properties, but the wood is slightly coarser grained. The latter is not likely to become a popular wood in the American markets



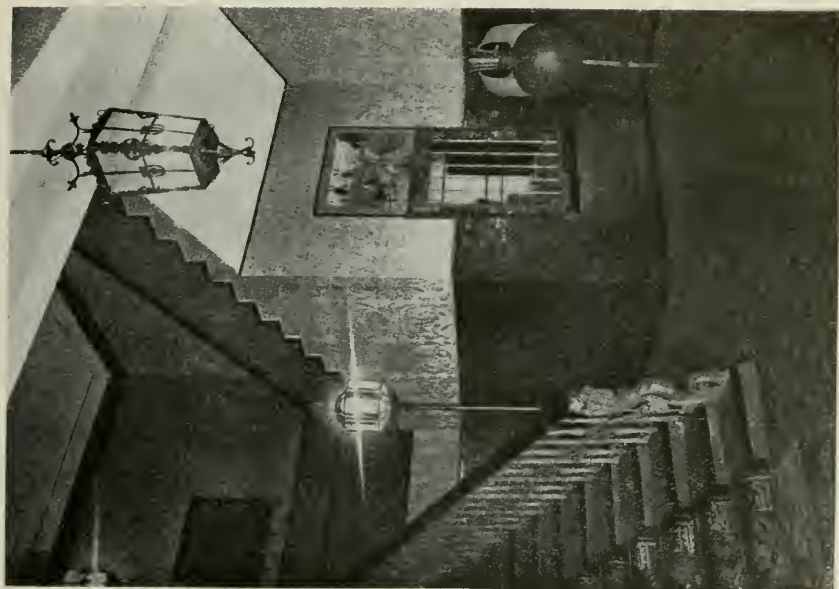
Courtesy of Plus Ultra, Buenos Aires.

THE NEW CERVANTES THEATER, BUENOS AIRES, ARGENTINA.

The Argentine capital's newest theater, erected for and dedicated to, the famous Spanish actress, Maria Guerrero, Marchioness of Fontanar, was opened September 5, 1921.
Upper: Exterior. Lower: The auditorium, from the stage.

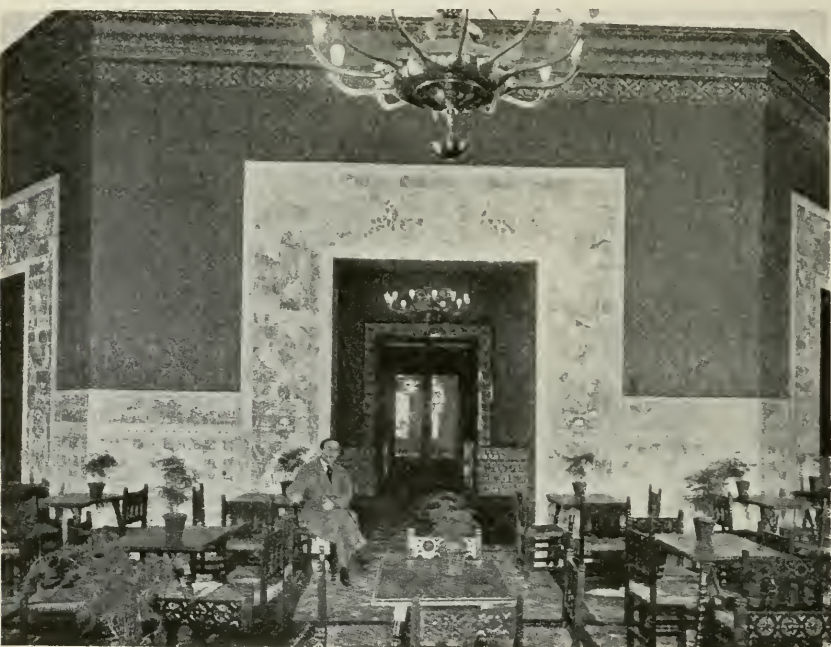
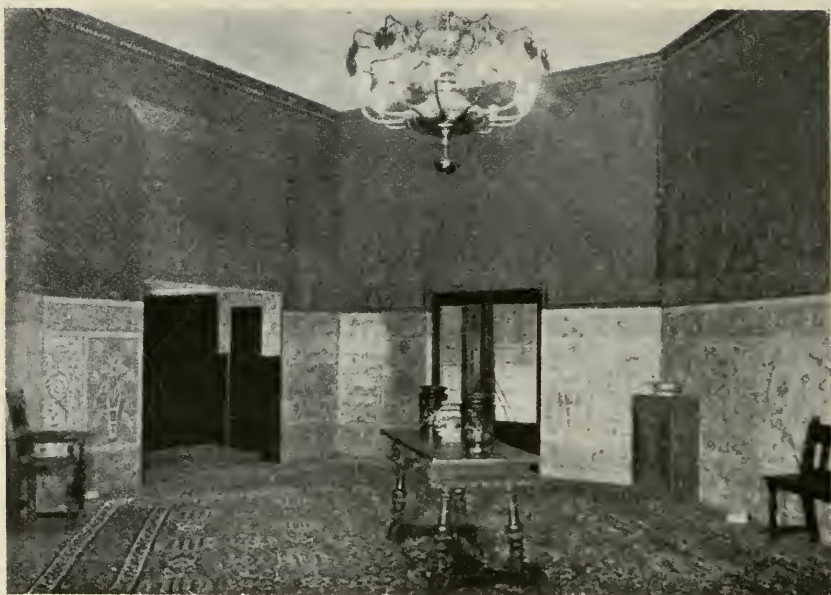


Courtesy of *Plus Ultra*, Buenos Aires.



THE NEW CERVANTES THEATER, BUENOS AIRES.

Left: The box office. Right: The principal stairway. Above the grated window is a scene from Don Quixote and in the corner a jar in Arabian mosaic style.

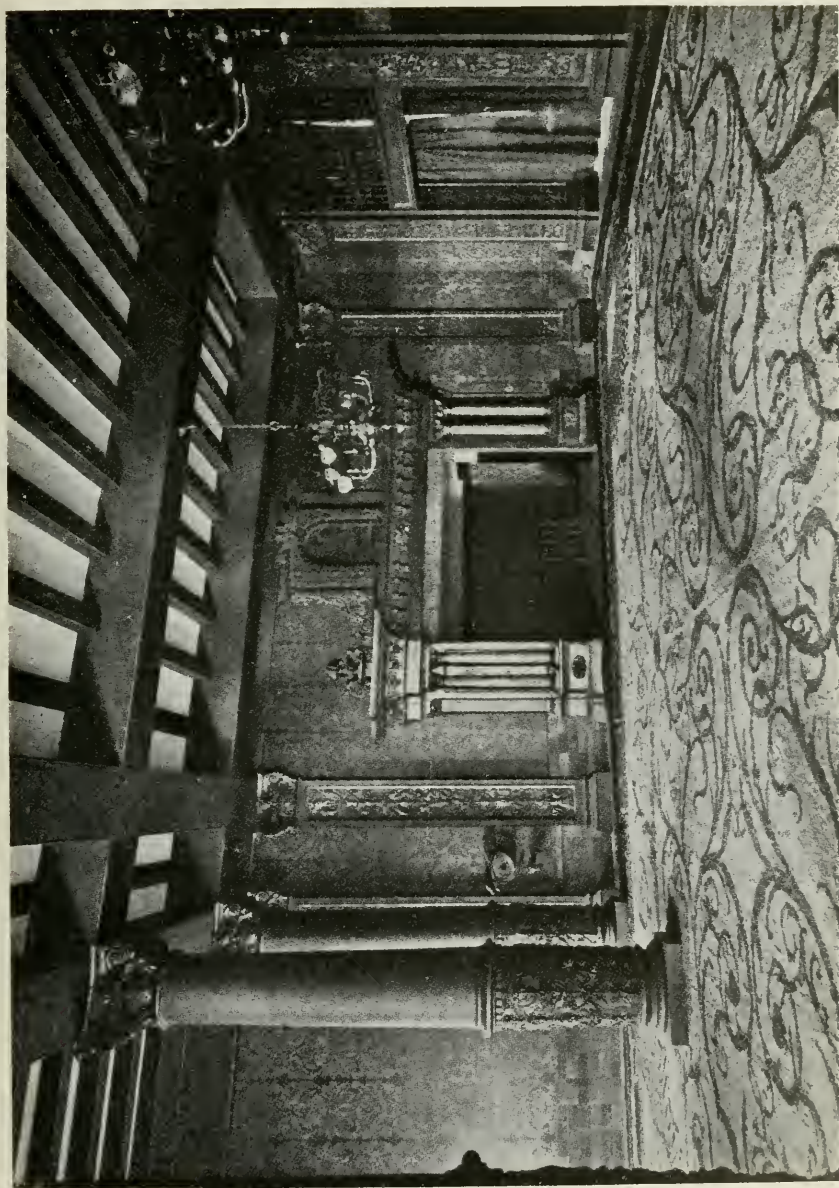


Courtesy of *Plus Ultra*, Buenos Aires.

VIEWS OF THE CERVANTES THEATER, BUENOS AIRES.

Upper: The vestibule which opens on the automobile entrance. Note the tile wainscoting in the classic Spanish manner.

Lower: The beautiful refreshment room.



Courtesy of *Plus Ultra*, Buenos Aires.

THE MAGNIFICENT BALLROOM OF THE CERVANTES THEATRE.

A NEW ART TREASURE FROM MEXICO ∴ ∴ ∴

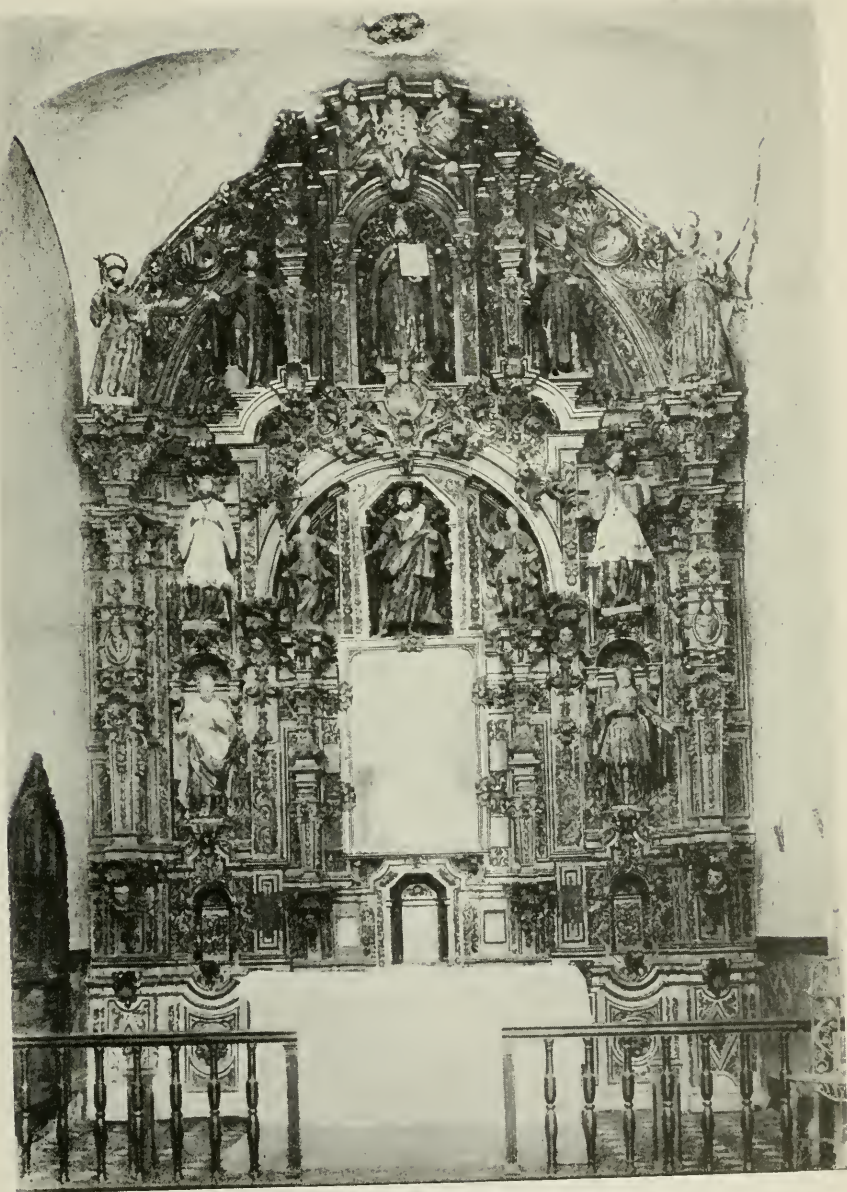
By FRANCIS S. BORTON.

THOSE who have visited the churches and cathedrals of Mexico know what beautiful works of art they contain, and that some of their interiors compare favorably with the best known in Europe. They know also that during the sixteenth and seventeenth centuries Spain, then the wealthiest country in Europe, sent from Spain and the Low countries a large number of architects, stone carvers and masons, sculptors and decorators to plan, build, and adorn hundreds of churches, convents, monasteries, hospitals, asylums, and other buildings throughout Spanish America.

Nowhere in the new world did Spain do more in that direction than in Mexico. Moreover, during the entire period named, from the great Mexican silver mines a constant stream of riches was being poured, much of which was expended in churches, chapels, and hospitals. Then, too, it was not unusual for private individuals, many of whom were owners or part owners of silver mines of almost fabulous riches, to build and equip churches at their own expense, running sometimes to over 1,000,000 pesos, in addition to rich and splendid private chapels as essential parts of their own city or country residences.

It has been the good fortune of Mr. Frank A. Miller, who has done so much to make Riverside, Calif., an art center, to obtain recently from the family of an eighteenth century Spanish marquis in Mexico one of the finest examples of ecclesiastical art now in the United States—an altar from such a chapel as has just been mentioned.

It is a blaze of gold and color, 25 feet high by 15 wide, and was constructed and set up probably not later than 1725, judging from the style of the carving and decoration. The front of the altar contains no fewer than 17 figures, of which 12 are full length, occupying their respective niches. Among them are St. Joseph in the larger central panel with St. Tobias and St. Raphael on either side. In the upper part, occupying conspicuous positions to the right and left, are St. Francis and St. Anthony, while elsewhere are seen Santa Barbara, Santa Teresa, and San Ignacio, with the famous motto of the Jesuit Order: "Ad Majorem Dei Gloriam." At the very top



AN ART TREASURE FROM MEXICO

This altar, recently obtained by Frank A. Miller of Riverside, California, is a "blaze of gold and color, 25 feet high by 15 wide, and was constructed and set up probably not later than 1725."

is a representation of the Trinity. But in order to appreciate even approximately the beauty of this wonderful altar, it must be studied in detail, slowly, carefully, and reverently; the eye must feast upon the incomparable shades of color in the robes of the saints, softened and enriched by two centuries, upon the blaze of massive beaten gold that covers all the surfaces of the pillars, capitals, fluting and flower-like carvings, and upon the lifelike expression on the faces of saints and angels, wrought by the master's hand long years ago.

Riverside is certainly to be congratulated on the possession of such a treasure.

NEW NATIONAL ASTRO- NOMICAL OBSERVATORY, CUBA

IN the northern part of Casa Blanca, Habana's most picturesque suburb, crowning a low hill which rises about 50 meters above the level of the sea, may be seen, a little to the southwest of the Meteorological Building, the New National Astronomical Observatory.

The observatory is built on a rectangular site, its principal façade overlooking the bay of Habana. Between the two edifices mentioned stands the Meridional Building and the open-air pavilion housing the meteorological instruments. Wide steps of artificial granite lead to the vestibule of the observatory, to the right of which is the library and to the left an office, which serves also as a reception room. Directly in front of the beautiful entrance rises a fine marble staircase leading to the upper part of the building, on the first landing of which, set in the back wall, is a striking allegorical window of stained glass, representing Night—so appropriately described as “the natural state of the Universe.” In this building are located the laboratory, the photographic developing room which is equipped with an adjustable roof, washers, driers, and negative files, and the room, kept at an even temperature, which contains the vault with the master clock.

The principal apparatus of the observatory is a refracting telescope, the latest work of the firm of Warner & Swasey, of Cleveland, Ohio, who have made some of the largest refractors in the world. The lens of the equatorial telescope has a diameter of 254 millimeters ($10\frac{1}{2}$ inches), calculated by Dr. Hastings, of New Haven, and ground



THE NEW NATIONAL ASTRONOMICAL OBSERVATORY, HABANA, CUBA.



DOME OF THE NATIONAL OBSERVATORY SHOWING TELESCOPE.

by the well-known firm of Brashear from blocks of crystal obtained in Germany.

The total height of the apparatus, when the telescope is turned toward the North Pole, is 3.75 meters. The length of the tube, without attachments, is about 4 meters. The telescope is provided with verniers, electric-light bulbs, and single microscopes. The clock fits into the second base, which is about 1 meter in height. The



MARBLE STAIRWAY OF THE NATIONAL OBSERVATORY OF CUBA,
ALLEGORICAL WINDOW IN THE BACKGROUND REPRESENTING
"NIGHT."

finder is luminous, and has an objective of about 90 millimeters ($3\frac{1}{2}$ inches).

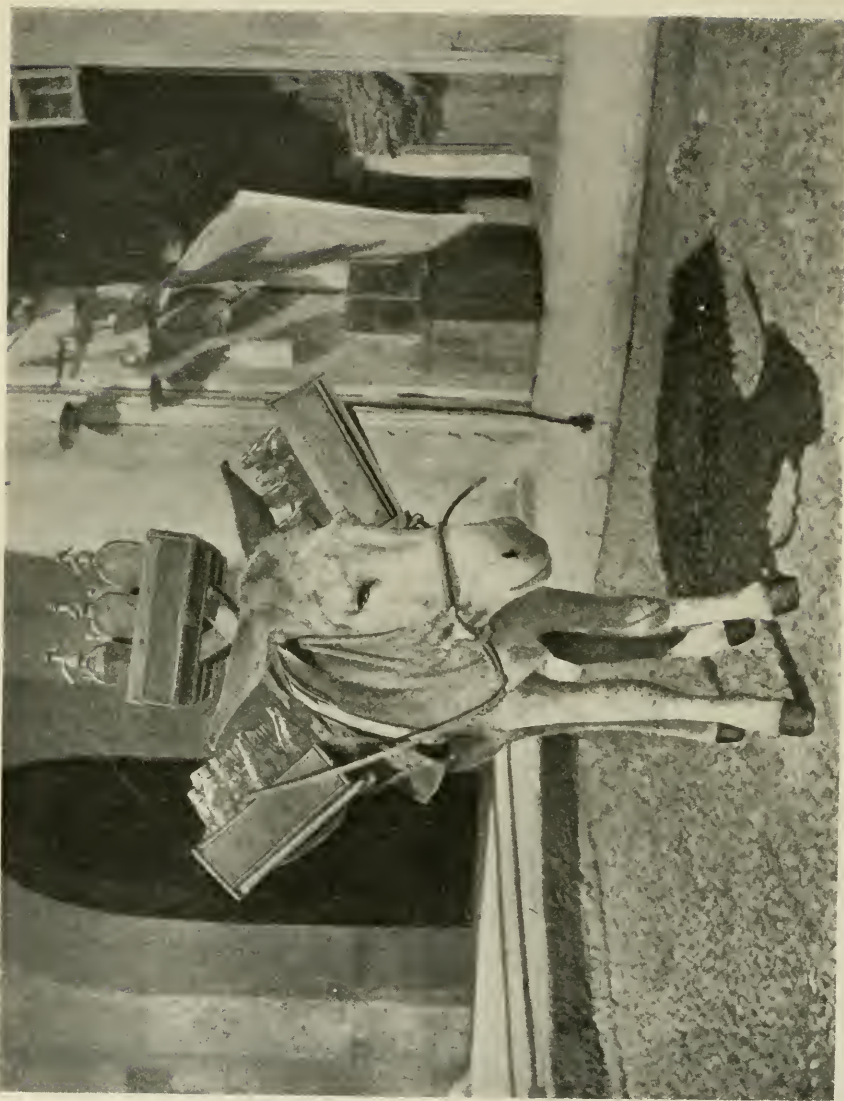
The equatorial telescope is equipped with an adjustable micrometer, a photometer, a spectroscope used in the study of solar protuberances, a polarizing helioscope, and other minor accessories. Upon the telescope tube is mounted a photographic camera, of the Astro-Petzval type, having an objective of 160 millimeters (6.3 inches).



Courtesy of M. A. Brackenridge.

A BUENOS AIRES POLICEMAN OF THE POLYGOT SQUAD.

This policeman, according to the cards on his arm, speaks Spanish, Turkish, French, Arabic and English, and naturally is of great assistance to strangers in the Argentina capital.



Courtesy of *The South American*.

A SODA WATER FOUNTAIN IN ONE OF THE SMALL ANDEAN CITIES OF PERU.

"High up the Andes the sturdy little donkey provides the only adequate means of transportation, whether it be carrying corn or playing joy dispenser. Shopkeepers find it quite agreeable to have their drinks mixed outside their door and then be able to drink at their leisure inside their own shop. The Indian market-women, who sit in the hot sun of the plaza all day beside their wares, gladly exchange some of their meagre earnings for the cooling drinks that this donkey brings them."

AGRICULTURE, INDUSTRY AND COMMERCE

ARGENTINA.

PROJECTED PORT.—The Administrator of the State railroads has conferred with the Director of Navigation and Ports about the resumption of work on the railway from San Antonio to Lake Nahuel Huapi as part of the Decauville line to be run through Patagonia. It is planned to build a dock for ocean vessels at the port of San Antonio Este, where rails and other railway material may be unloaded, for due to the shallow harbor, San Antonio del Oeste can accommodate only coastwise vessels. The expenditure for the 44 kilometers of railway to be constructed between San Antonio del Oeste and the new port of San Antonio del Este will be offset by the avoidance of transferring cargoes of material purchased in Germany to lighters for landing in the former port.

CLEAR CHANNEL OF RIVER PLATE.—The Bureau of Navigation and Ports and the Ministry of Public Works are considering means to clear the channel of the River Plate of some 15 vessels which have been wrecked there, and which are a danger to navigation. Previous to 1919, bids were made to dynamite the hulls but it is now thought the work can be done by the Ministry of Marine, which has the expert personnel and a certain amount of explosives, while the Public Works Department will furnish the dredges and flat boats.

RIVER PLATE AVIATION Co.—The Compañía Rioplatense de Aviación was formed on September 1, 1921, with an authorized capital of 1,000,000 pesos. The company has established at San Isidro, 30 minutes from Buenos Aires, an air base with cement hangars, shops, warehouses, and a club, and has imported several Airco Rolls Royce airplanes similar to those used on the London-Paris air route. These machines are provided with comfortable cabins for four passengers, and in connection with the company automobile service, will convey passengers from the Plaza de Mayo to Montevideo twice a week. The company expects to make the journey in $2\frac{1}{2}$ hours, or at the rate of approximately 180 kilometers an hour. Special trips will also be made in 4 hours to Punta del Este for 160 pesos per passenger. The present travel time to Montevideo is 8 hours, and thence 6 hours more by train followed by a long automobile ride to Punta del Este. A route is also to be established through the Province of Entre Ríos with four-seater Breguet-Renault planes on a weekly schedule from

Buenos Aires to Concordia, Argentina, a 2½-hour trip in direct flight, with 10 minutes extra for stops at the Uruguayan towns of Mercedes, Fray Bentos, Paysandú, and Salto, and at Colón and Gualaquaychú in Entre Ríos, Argentina.

NEW TEXTILE INDUSTRY.—A new textile, called *formio*, made from the plant *phormium tenax*, is being manufactured on an island of the Delta, for sacking, binding cord, sewing thread, and general roping. This plant is a native of New Zealand, and from the few seeds brought to Argentina as a scientific curiosity 500,000 plants were finally obtained. The company which is developing the industry has an island in the Paraná Miní River where it is raising the plant; it has asked the Government for a further concession of 2,500 hectares to increase the planting, which is very successful in the swamps of the Delta.

ARGENTINE EXHIBIT IN BRAZILIAN EXPOSITION.—The various packing houses of Argentina have offered to the Ministry of Agriculture for exhibition in the International Exposition to be held in Rio de Janeiro next year, a film of the stock-raising industry of the River Plate, which shows the different phases of this business as carried on in all the large *estancias*. The President expects that in all about 1,000,000 pesos will be spent on the Argentine exhibits and incidental expenses for the exposition.

RAILWAY CONGRESS.—The Administrator General of Railways has appointed a commission of five officials to attend the congress to be held in Rome in April by the International Railway Association.

PATAGONES RAILWAY.—The railway line from Bahía Blanca to Carmen de Patagones is completed. Twenty leagues of rail were laid in laid in 20 months.

SHIPMENT OF CHERRIES.—The Argentine-American Chamber of Commerce reports that the first shipment of cherries ever sent to the United States from Argentina left in December aboard the *American Legion* and amounted to 2 tons, part of which was for President Harding. This shipment is included in the campaign to sell Argentine fruit in the United States, mentioned in the last number.

BOLIVIA.

BOLIVIA'S OIL.—In view of the lessened price of tin which was Bolivia's main export, foreign and local investors are now interested in oil, says the President's message. Negotiations are being completed with the representative of the Standard Oil Co. which takes over the holdings of Richmond Levering & Co. On February 28, 1920, the latter company secured a 1,000,000-hectare oil concession in the Departments of Chuquisaca, Santa Cruz, and Tarija.

BOLIVIAN RAILROADS.—According to the President's message read October 30, 1921, the national railroads of Bolivia total at present

2,261 kilometers, of which 1,851 are completed and 410 in course of construction. On June 30, 1921, the lines of the Bolivian Railroad Co. were estimated to be worth £7,439,477 15s. 10d. The Yungas line is not as far advanced in construction as desired, but the rails are laid to kilometer 49, and the ballast as far as kilometer 46. A five-arched masonry bridge has been constructed at kilometer 45. At Purapura a group of workmen's houses is being completed, with a retaining wall on the Choqueyapu to protect them. Traffic now extends to kilometer 46 and in a short time will reach kilometer 49. The Potosí-Sucre line has been able to break ground for the track between kilometers 60 and 81 and extend the track to kilometer 60. The branch line to Corocoro showed the usual average of traffic for the year; its earnings represented 14 per cent of the capital invested in the building of this road.

The Machaca-Uncía railway was completed in May; during the year of partial operation it has carried 41,826 passengers, 47,598 tons of freight, and 1,092 tons of baggage and packages. The Ulen Contracting Co. expects to begin actual work on the Villazón-Atocha line in January. Surveys are being completed for the line from Cochabamba to Santa Cruz.

A commission has been considering plans for the electrification of the Yungas line which include two daily passenger trains and one and a half for freight, necessitating 1,800 horsepower. The cost is estimated at \$2,457,490.

LAND GRANTS.—Land grants conceded by the Government since 1907 for agriculture, stock raising, and rubber plantations number 1,224, with a total area of 15,288,669 hectares. Of this, 7,608,628 hectares represent rubber holdings. Various laws have been passed to clarify the holding of such land grants and the quantity adjudicable to individual holders. (*President's message.*)

RAILROAD RATES.—The Government has permitted the Bolivian Railway Co. to raise its fare and freight rates 15 per cent to offset the increase in prices of railway material. The new rates will be effective until the Government directs their change.

SUPPLEMENTARY FUNDS.—The Antofagasta (Chile) and Bolivian Railway Cos., in accordance with the agreement referred to in the decree of November 7, 1916, have each provided £2,500 semi-annually toward a supplementary fund to care for expenditures on additional work. These quotas began January 1, 1916, and were concluded December 31, 1920, making a total fund of £50,000 as fixed in the agreement. Of this sum only £8,232 16s. 7d. has been spent. Until this fund is reduced to £25,000 it is unnecessary to resume payment of the quotas. (*President's message.*)

BRAZIL.

INTERNATIONAL COTTON CONFERENCE.—The National Society of Agriculture with headquarters in Rio de Janeiro has addressed a communication to the President of the Industrial Center of Cotton Spinners and Weavers inviting the latter organization to cooperate in the work of preparing for the International Cotton Conference, which is to be held October next under the joint auspices of the Cotton Services of the Ministry of Agriculture and the Executive Committee of the National Exposition. The Industrial Center of Cotton Spinners and Weavers has accepted the invitation and designated its first secretary, Senhor Carlos Julio Galliez, to be its representative on the committee of organization.

FREE ZONE IN PORT OF RIO DE JANEIRO.—See page 187.

CHILE.

AGRICULTURE.—Interest in agriculture is steadily increasing in Chile. As an evidence of this fact the recent stock show and the agricultural and veterinary instruction conference may be mentioned, as well as the agricultural exposition to be held in O'Higgins Province.

The annual show of the Sociedad Nacional de Agricultura was held at Santiago in October last. Durham cattle, both pure bred and crossed, held the most prominent place, but Dutch and Normandy cattle, Lincoln Reed shorthorns, and Holsteins were also shown. Among the sheep there were Hampshire Downs and Oxford Downs, while the swine included Chester Whites, Duroc Jerseys, Berkshires, and Poland Chinas.

There was also a division for farm machinery and tools, in which two sections were of special interest. One was that exhibiting a large number of agricultural tools, metal parts, leather articles, and delicate scientific instruments for agricultural use, all made in the army shop of the War Department. The other showed the farm machinery of an American firm, a tractor used as a motor for cutting ensilage and a reaper and binder attracting special attention.

The first conference on agricultural and veterinary instruction was held in Santiago October 26 to 30, 1921. The conference hopes to increase the dissemination of scientific knowledge among farmers, especially those who regard cattle diseases and the loss of crops as unavoidable fatalities.

An agricultural exposition will be held April 5 in O'Higgins Province under the auspices of the Unión Agraria. Exhibits will be shown and an assembly of provincial agriculturists held to discuss the economic welfare of farm laborers, the formation of rural banks, and other vital problems.

PACKING PLANT.—A packing and refrigerating plant covering 35 hectares is being built at Puerto Montt. For its products it

will draw upon the stock raised in five southern Provinces—Malleco, Cautín, Valdivia, Llanquihue, and Chiloé—which is calculated to consist of 602,528 head of cattle, 648,162 sheep, and 125,137 swine. The capital of the company is £200,000 sterling.

ROAD REPAIRS.—Of the 50,000,000 pesos appropriated last year for public works, 7,531,347 pesos had been spent on road repairs throughout the Republic prior to October 1, 1921. Road machinery and tools cost 1,129,000 pesos, and the amount of 339,300 pesos gold has been reserved for the purchase of 14 additional road machines.

NEW NITRATE PROCESS.—The Poirrier nitrate process, said to reduce the cost of production by 50 per cent, is being tried out on a commercial scale at an oficina in Taltal.

TRANSANDINE RAILROADS.—The Chilean engineers have practically finished the preliminary plan for the transandine railroad via Lonquimay, which will unite the rich southern zone of Chile to the Zapala system of Argentina.

In the north material has been ordered for the Argentinian section of the Salta, Argentina, to Antofagasta, Chile, transandine line; the plans for the Chilean section had at latest advices not been definitely settled.

The ad referendum contract for the unification of the present Chilean and Argentinian lines, mentioned in the September, 1921, issue of the *Bulletin*, has been approved by Congress and became a law September 13, 1921.

OIL TANK CARS.—A firm in Valdivia has recently constructed four oil tank cars of 25,000 and 30,000 liters capacity, which are to be used on the Chilean railroads to transport and distribute the products of a petroleum company. These are the first tank cars of this description made in Chile.

WIRELESS TELEGRAPH SERVICE.—A German firm has obtained a contract from the Government to construct wireless stations in Iquique, Antofagasta, Tocopilla, Valparaíso, Santiago, Concepción, Valdivia, and Punta Arenas. They are to be supplied with electrical energy of from 2 to 5 kilowatts, which will permit internal communication and the direct transmission of messages to Peru and Argentina, as the minimum range will be 2,500 kilometers. The total cost is reported to be 1,385,000 gold pesos. The work is to be completed within 18 months.

RAILROAD COMMISSION.—The Government is sending to the United States for two years a commission headed by the Director General of the Railroads, Señor Manuel Trucco, to inspect and approve the materials, machinery, and tools for the electrification of the Santiago-Valparaíso line. (See the *Bulletin* for January, 1921.)

CONSUL GENERAL OF CHILE.—The consul general of Chile in New York, Señor Munizaga Varela, was recently the guest of honor at a

luncheon given in that city by the Chile-American Association. The Chilean ambassador, Señor Beltrán Mathieu, went from Washington to attend. Mr. A. C. Burrage, of Boston, in introducing Señor Munizaga Varela, paid him a tribute as a life-long student of both North and South America. In his response the consul general stated his belief that the United States was in a better position than any other country to develop Chile's natural resources.

COLOMBIA.

COFFEE.—During the year ended June 30, 1921, Colombia exported to the United States 212,391,512 pounds of coffee, valued at \$36,718,116. After Brazil, which exported in the same period 857,454,209 pounds of coffee to the United States, Colombia is ahead of any other country in the exportation of coffee to the United States. These figures are given by the Unión Cafetera Colombiana.

RENEWAL OF GERMAN STEAMSHIP SERVICE.—Last November the steamer *Antioquia*, of the Hamburg-American Line, called at the Atlantic seaports of Colombia, renewing, after seven years, direct steamship service between Germany and Colombia. The steamers of this line will visit Venezuela, Curaçao, Puerto Colombia, Cartagena, and Guatemala, and from there will return by the same route to Germany.

COSTA RICA.

PACIFIC RAILROAD.—The earnings of the Pacific Railroad for the period January 1 to August 31, 1921, were 1,019,023.66 colones, an increase of 160,818.11 colones over receipts for the same length of time the previous year. The expenses were 795,222.87 colones, an increase of 60,986.39 over the corresponding period of 1920. The profit for the eight months was 223,800.79 colones, 99,831.72 colones more than the credit balance of January–August, 1920.

STEAMSHIP LINE.—The East Asiatic Co., of Copenhagen, expects to include Puntarenas in the ports of call of its steamships, which sail from San Francisco to Europe via the Panama Canal. Coffee may thus be exported without transshipment in the Canal Zone.

CUBA.

UNITED RAILROADS OF HABANA.—The board of directors of the Ferrocarriles Unidos de la Habana y Almacenes de Regla, Ltd., has published the balance sheet corresponding to the revenues and expenses of the consolidated railroads of Habana during the fiscal year ended June 30, 1921. According to this balance the revenues amounted to £6,329,669 sterling and the expenses to £4,848,142

sterling, compared with £5,876,074 and £4,255,372 sterling, respectively, during the same period of 1919-20.

NEW PETROLEUM STATION.—The English tanker *San Tirso* arrived in Habana carrying from Tampico, Mexico, approximately 3,000,000 gallons of crude petroleum. This is the first of a series of shipments made into Cuba by the Anglo-Mexican Petroleum Co., which has built two large tanks in Habana.

HABANA-KEY WEST RECORD.—The hydroplane *Santa Maria II* in November made a trip from Key West to Habana in one hour and five minutes, establishing a record over this course, and at the same time inaugurating for the season the air service between Habana and Key West. There are six hydroplanes ready for service in Key West, all of the same type as the *Santa Maria II*. The price of passage has been reduced to \$50.

DOMINICAN REPUBLIC.

CONTRACTS.—The Department of Interior and Police has issued a regulation saying that any municipal contract with an individual or company involving over \$500 must first be submitted for approval to the department.

RAILROAD PERMIT.—The Department of Promotion and Communications has granted authorization to a sugar company to build, use, and operate a railroad on its own property, the Ingenio Angelina. It has also received permission to install an aerial cable car across the Higuamo River. The railroad begins in San Pedro de Macorís at the termination of this aerial cable to the west of the Higuamo River, and is to extend for $7\frac{1}{2}$ kilometers.

YAUQUE DEL SUR BRIDGE.—The Yaque del Sur Bridge on the Azua-San Juan road was recently opened to traffic. The bridge, which is of reinforced concrete, is 100 feet long and has two approaches, each 100 feet long. Work was begun on May 3, 1920, and concluded October 9, 1921. Including the structural iron the bridge cost \$75,000, of which the people of Azua Province contributed \$3,000. The bridge has been named in honor of Francisco del Rosario Sánchez, a Dominican patriot.

CIBAO ROAD.—The Cibao Road has been finished up to kilometer 60. Wooden bridges have been replaced by reinforced concrete or iron bridges and the whole extent of the road is covered with crushed stone.

REDUCED FREIGHTS.—The Columbus Steamship Co., of New York, on November 7 reduced freight rates on Dominican exports and imports. On the same date the United Fruit Co. reduced its rates between the Dominican ports and New York 20 per cent on exports plus the present surcharge recently applied.

SUGAR CANE CULTIVATORS.—The Assembly of Chambers of Commerce resolved to ask the sugar central owners to give to their colonists as compensation for their work 5 per cent instead of 4 per cent of the raw material furnished. This provision is suggested for three crops, after which time the present contracts will again be effective. This measure would enable the colonists to recover to some extent the losses of the past two years.

COMMERCE CODE.—See page 189.

ECUADOR.

STOCK COMPANY.—A stock company has been formed in Milagro to promote the rice industry, in connection with which it will install a considerable amount of new machinery. The company also expects to build an electric light plant for the town.

ESMERALDAS TO SANTO DOMINGO.—A new road is to be built from Esmeraldas to join the roads which are planned to unite Quito, Chone, and Santo Domingo. The necessary money will be obtained from the transfer of public lands and from liquor, merchandise, and boat taxes.

AGRICULTURAL COLONIES.—In pursuance of the Government policy of encouraging immigration, 12,000 hectares of land in San Cristóbal and Isabela, two islands of the Galápagos group, and 15,000 hectares in Napo-Pastaza, one of the eastern Provinces, have been granted to concessionaries for agricultural exploitation.

NEW INDUSTRIES.—See page 190.

NATIONAL DEFENSE TAXES.—See page 190.

PUBLIC WORKS.—Congress has decreed the construction of a wharf and customhouse at Guayaquil and has authorized the President to make contracts to complete the Quito-Esmeraldas, Sibambe-Cuenca, and Ambato-Curaray railroads.

EXPORTATION OF FOODSTUFFS.—The decree of August 27, 1921, mentioned in the *Bulletin* for December last, has by legislative decree of September 29, 1921, been repealed, as also the decree for October 30, 1917, and therefore exportation of foodstuffs may now be freely made.

AGRICULTURAL ASSOCIATION.—A legislative decree promulgated in October, 1921, extends the export tax of 3 sucres on every 46 kilos of cacao until December 31, 1925. Sixty-six per cent of the product of this tax is to be used in payment of the notes of the Agricultural Association, of the amount owed to banks, and of its other debts contracted prior to the present decree. The remaining 34 per cent will be used for administrative expenses of the association, and in maintaining the price of cacao and sustaining the Chobo Experiment Station. An inspector named by the President will have full power

to officialize and superintend the affairs of the association. The inspector shall keep the President informed of the transactions of the association, and the President may direct the association to change the tendency of its transactions. When the debts are paid, the President shall immediately remove the export tax on cacao, as provided by article 7 of the legislative decree of December 20, 1912. The directors of the Agricultural Association are held personally, collectively, and financially responsible for complying with the new decree.

HAITI.

FOREIGN TRADERS' LICENSES.—One hundred licenses for the fiscal year of 1921-22 have been issued through the Department of Commerce to foreign merchants or agents of foreign firms located in Haiti.

CALL FOR TAXES.—The communes of Carice and Sainte Suzanne have issued a call for all persons holding land of the public domain under precarious title to have the land measured and recorded with the local governments in order to make their holdings safe.

MEXICO.

AUTOMOBILE SHOW.—The 1922 automobile show organized under the auspices of the automotive group of the American Chamber of Commerce will be held in Mexico City from April 16 to 23. The show will be open to all dealers in the United States and Mexico, and to all makes of automobiles, trucks, and tractors of all countries.

COLONIES.—The Mexican Government is determined that no colonies from any country shall be established in Mexico unless their promoters can show beforehand that the colonists have enough money to make a success of their plans, buy lands, equip themselves with proper implements for farming, and maintain themselves till the crops come in.

OIL FOR LINERS.—The president of the Mexican Petroleum Corporation made a statement saying that Mexican oil will run the transatlantic liners belonging to British interests in 1922. The negotiations to secure the supply have been successfully completed between Lord Perrie and his associates and American oil men interested with the British group in the ownership of the British Mexican Petroleum Co., Ltd.

GOOD ROADS.—The Secretary of Communications made the statement that on January 1 work on all roads, the construction of which was discontinued in the last few months, will again be taken up and completed as soon as possible. The roads now completed, including that to Cuernavaca, will be given the best of care. This is due to the good-roads movement recently begun in Mexico.

NEW STEAMSHIP LINE.—The Steel Co., an American firm, has established a regular passenger and steamship service between Galveston, Texas City, Vera Cruz, and Tampico. This new steamship service will have ships sailing at first every two weeks, and later on every week.

NICARAGUA.

ELECTRIC-LIGHT PLANT.—León is to have electric light, derived from water power, for its streets and buildings, materials for the plant having already arrived. The dam was to be finished by January 10; the poles through the center of the city have been in place some time.

SHIPPING.—Among late steamer arrivals at the Nicaraguan port of Corinto is noted that of *Baja California*, a vessel of the new Latin American Line of steamers, en route from San Francisco to South American ports.

PROJECTED COFFEE-PLANT PROTECTION.—The Minister of Promotion has in mind a law to protect the coffee trees in harvest time. Many colonists are careless in stripping the trees of their berries and break or destroy the plant which furnishes them with their livelihood and the country with a considerable source of revenue. Among other provisions the proposed law is to contain clauses preventing the cutting of branches or breaking of trees during the harvesting of the crops, which must be done when the tree is in full bearing. Fines are to be imposed upon colonists or harvesters who destroy the trees and upon plantation owners who do not enforce these provisions. Inspectors will probably be sent through the coffee-raising zones to oversee the gathering of the berries. It is also suggested by the press that a uniform measure be designated for national use and that the coffee-cleaning establishments come under the provisions of the law, so that the grower may have full protection in the sale of his crop.

MONKEY POINT RAILROAD.—It is hoped to begin the work on the railroad to Monkey Point early in 1922.

INVENTIONS.—Don Manuel Borge, jr., professor of sciences and author of a prize-winning textbook on arithmetic, has invented a new electric switch by which 10 changes of light can be made. The inventor has Nicaraguan and United States patents and is undertaking to patent the switch in Canada, England, France, and Italy. Sr. Borge is also the inventor of a tortilla-making apparatus. The machine takes the corn, grinds it to the proper fineness, mixes the dough, shapes the tortilla, and passes it to an oven, where it is rapidly baked.

PANAMA.

MOVING PICTURES.—The Universal Film Co. five years ago chose Colon as its distributing center for Central and South America. The company has recently enlarged its offices and is sending out repre-

sentatives to Colombia, Ecuador, and Venezuela and will open offices in Cartagena, Barranquilla, Medellín, and Bogotá. Offices are also to be opened in Managua, Nicaragua, and in Salvador to handle the business north of Panama, and in Trinidad for the West Indies.

TIMBER CORPORATION.—A timber corporation which has its saw mill in Darien in the heretofore undeveloped Rio Congo region has built a 5-mile narrow-gauge railway to its mills, constructed an electric plant, a small ice plant, and a model furnace for drying wood. It has also purchased a four-masted sailing vessel of 1,400 tons displacement with a capacity of 800 tons and cabins for a few passengers. This vessel and another similar one will make the voyage from Balboa to New Orleans in 13 to 15 days, carrying cargoes of wood.

PARAGUAY.

TRAMWAYS.—The Congress issued a decree modifying the law of December 7, 1910, which calls for the construction and exploitation of the electric tramways of the capital and near-by towns, as follows: "This concession will be for 60 years beginning on the date of promulgation of the present law. At the end of this term the municipality will have the right to expropriate the whole or part of the concession, by compensating the holder for the industrial value of the said property. The concessionary, in compensation for the above mentioned changes of the law, will undertake the work of electrification of the present street-car lines up to Villa Morra."

TAXES.—All merchandise placed in storage in the customhouse depots will be taxed one-half of 1 per cent a month or fraction of a month. All imported goods, with the exception of parcel post, will be subject to a port duty of 2 centavos gold for each 10 kilograms of gross weight, providing they occasion the use of piers, cranes, labor, or other appurtenances of the customhouses. The same tax is laid on all exported products of national origin with the exception of fruits and vegetables. The tax for slaughtering beef is 25 pesos per head, and for sheep, hogs, or goats, 5 pesos per head. Alcoholic beverages produced in the country are taxed at 2 pesos legal currency per liter. Imported wines are taxed as follows: Common wine in barrels, 50 centavos per liter; fine wines in barrels, 80 centavos per liter; common wine in bottles, 60 centavos per liter; fine wine in bottles, 1 peso 20 centavos per liter; cider, 60 centavos per liter; and champagne, 5 pesos per liter.

AGRONOMIC COOPERATION.—Former students of the Agricultural School are about to form the Pabellón de Agrónomos for cooperation in matters of material benefit and scientific aid to cultivation.

TELEGRAPH SERVICE.—A new telegraph office has been opened in San Patricio, Department of Santiago, connecting with the under-river cable which unites the Paraguayan and Argentinian lines.

IMMIGRATION CUSTOM REMISSION.—The Paraguayan consul general in Buenos Aires has been instructed to inform immigrants that they will be allowed entry duty free for their personal clothing, furniture, chattels, seeds, industrial and farm machinery, trade tools, and blooded stock. Merchandise or other possessions and all goods whether within the exemption or not, must be subject to customs examination.

ELECTRIC PLANT.—An electric plant has been established in the town of Ypacaraí.

DESTRUCTION OF LOCUST.—The President has set aside 300,000 pesos for the campaign against the locust, which, added to the former appropriation of 100,000 pesos, makes a sum sufficient to undertake to exterminate the pest. Under the Department of Agriculture is a central commission in charge of the work, with subcommittees in each town.

PERU.

CHICLAYO-LAMBAYEQUE RAILWAY.—The proposal has been approved to build a narrow-gauge (3-foot) railway from the city of Chiclayo through Lambayeque and the towns of that Province, terminating at a point on the projected Paita Marañón Railway. The Province of Lambayeque is a rich agricultural district which is well populated; it also has mineral resources. This is the first railway to run through this region and give egress to mountain products.

PERUVIAN EXPOSITION IN LONDON.—The Peruvian consul general in London recently held in that city an interesting exposition of Peruvian products. Among the samples shown were: Gold quartz, alluvial gold, silver ore, coal, marble, tungsten, molybdenum, and vanadium, of which last Peru has the largest production. There were also oil, alum, sugar, cotton, and rubber.

REPUBLIC OF CENTRAL AMERICA.

BANANAS.—During 1920 one fruit company shipped from Puerto Barrios 3,194,700 bunches of bananas, while during the first nine months of 1921 alone, the exports of this fruit were 3,209,895 bunches.

NEW BRIDGE.—Construction has been begun on the new bridge over the Río Celgualpa on the Comayagua-Siguatopeque highroad in Honduras.

ELECTRIC LIGHT AND WATER.—Comayagua, Honduras, is having an electric-light and water system installed. A new radio station is also to be built there.

LOCOMOTIVES.—In November, 1921, three locomotives, valued at \$100,000, and 500 tons of material for the railroad were delivered at the port of La Unión, Salvador.

URUGUAY.

CENTRAL URUGUAY RAILWAY.—The annual report of the Central Uruguay Railway for the year ended June 30, 1921, shows £1,277,953 sterling gross receipts, an increase of £72,063; and running expenses, £1,210,035, an increase of £222,380 over the year 1919–20. The new rates necessary on account of the increased cost of operation did not come into effect until January on the main line and not until March 15 for passengers, and May 15 for live stock, on the branch lines.

PORT EXTENSIONS.—Approval has been given to the bill authorizing the expropriation of property for extending the port at Paysandú. Improvements are also to be made in the port at La Paloma.

LIVE-STOCK IMPORTS.—A decree has been issued prohibiting the importation of live stock from Belgium and Brazil for one year after the disappearance of rinderpest from the countries mentioned. Animal products in transit must pass through the special offices of the National Inspection of Animal Sanitary Police, and in every case the goods must be accompanied by the corresponding official sanitary certificate.

RAILWAY GUARANTEES.—The guarantees of the Uruguayan railways were paid in London on November 1, 1921, for the quarter ending September 30, as follows: Northern Railway, 23,473 pesos; Midland Railway, main line, 66,581 pesos; Algorta to Fray Benitos branch of same road, 28,757 pesos; Tres Árboles to Piedra Sola branch, 11,818 pesos; Central Uruguay, Northern Extension, 27,240 pesos; and the Eastern Extension of the same, 45,233 pesos.

ERADICATION OF THE LARGE THISTLE.—The Bureau of Agricultural Defense has issued an ordinance making obligatory the destruction of the large thistle in the lands and roads where it grows. It has been classed as a pernicious weed and the ordinance calls on all land-owners or occupants to exterminate it within the borders of their property and in half of the road along the entire extent of their lands. Persons not keeping these rules are subject to a fine.

PORTS FOR PLANT IMPORTATION.—A decree was issued September 23 providing that Montevideo and Salto be the only ports through which plants and other possible carriers of the *Aspiclotus perniciosus* (a dangerous plant cochineal), might be imported. This small insect is prevalent in some of the neighboring countries and therefore numerous plants, seeds, and fruits are subject to the sanitary controller's ruling on disinfection.

VENEZUELA.

ELECTRIC LIGHT.—The Electric Light Co. of Maracaibo has installed a new American 536-horsepower 400-kilowatt turbine which will considerably augment its lighting power.

PUBLIC WORKS IN TRUJILLO.—A bridge over the Jiménez River, which will assure open communication between Trujillo and Motatán even in time of flood, is being constructed at a cost of 40,000 bolivares, while another bridge over the Motatán River, on the road from Motatán to the district of Urdaneta, will promote commerce in the varied products of the latter region. The highway between Valera and Motatán, soon to be completed, will facilitate traffic between the latter and the terminus of the La Ceiba Railroad.

FREIGHT REDUCTION.—The Red D Line in November reduced its freight rates between Venezuela and the United States.

COFFEE.—During October, 1921, 79,155 bags of coffee were shipped from the port of Maracaibo, against 14,827 in October, 1920. The major portion in each case went to the United States, the amount for last October being 51,876 bags. Of the present crop, which seems to be abundant, the best grades are expected from the more temperate zones.

ECONOMIC AND FINANCIAL AFFAIRS

BOLIVIA.

PUBLIC DEBT.—On September 30 the public debt was 68,615,502.54 bolivianos, apportioned as follows: Foreign debt calculated at the rate of 1 boliviano to 12½ pence, 9,749,467.86 bolivianos; internal debt, 33,721,221.78 bolivianos; and the floating debt, 25,144,812.90 bolivianos. (*President's message.*)

RAILWAY BONDS.—The annual interest of £187,500 on bonds of the Bolivian Railway was promptly met last year. (*President's message.*)

COLOMBIA.

SILVER COINS.—The Conversion Board (Junta de Conversión) has entered into a contract with the Equitable Trust Co., of New York, for the coining of 3,000,000 silver coins of 50-centavo denomination. The work will be done at the Philadelphia Mint.

CUBA.

INTEREST ON LOAN.—The President has authorized the Banco del Comercio to send \$650,000 to pay the interest and part of the capital of the \$10,000,000 loan made by the American Government to Cuba during the European war.

TREASURY RECEIPTS.—The Undersecretary of the Treasury has reported the sum collected in revenues and taxes from May to November, 1921. Of the total, \$35,899,975.06, collections for May amounted to \$6,449,737.27; June, \$5,451,575.00; July \$5,517,718.98; August, \$5,361,587.94; September, \$4,630,486.24; October, \$4,199,417.13; and November, \$4,289,452.50.

HAITI.

1910 HAITIAN LOAN.—The Banque de l'Union Parisienne, the contracting bank for the 1910 Haitian 5 per cent loan, has bought back 4,889 bonds of this loan.

MEXICO.

GOVERNMENT BONDS.—The President of the Republic has issued two decrees regarding the issuance and payment of Federal bonds to banking institutions, and extending the time for the creditors of the banks to exchange their titles for the bonds issued by the banks. The first decree says that the bonds the Government will issue, in payment of the banking debts, comprise only the amounts these banks loaned the Constitutionalist Government, the sum being determined in accordance with article 28 of the decree issued January 31, 1921. In these bonds the name of the creditor bank in whose favor the bonds are issued will be given; 16 coupons, payable every six months, will be attached. The bonds will have a face value of 100,000 pesos and earn an annual interest of 6 per cent.

The second decree was issued with the purpose of amending the law of January 31, 1921, referring to the time bank creditors may exchange their titles for bonds, and says that the 10 months' period stipulated by article 20 of the decree of January 31, 1921, is extended to 16 months, so that the bank creditors may be able to exchange their titles and documents for bonds issued by the banks. This decree further states the obligations imposed on the banks by article 24, the rights given to the same banks, and the rates of interest that the bonds will earn.

MEXICAN BUDGET.—The total income of Mexico from all sources for 1922 is estimated by the Budget Committee at 216,000,000 pesos, not counting the oil export tax, which is applied solely to the amortization of the foreign debt. The income from import duties will be about 48,000,000 pesos, and from export duties about 6,000,000 pesos. The liquor taxes will produce about 23,000,000 pesos and the post office 10,000,000 pesos net revenue.

PARAGUAY.

BUDGET.—According to the new budget the expenditures of the country for the next fiscal year amount to 1,071,882.96 gold pesos

and 105,189.35 pesos legal currency. The revenues are calculated at 796,000 gold pesos and 98,134,200 pesos legal currency.

PERU.

ALCOHOL TAX.—The Tax Collection Co. has recommended the increase of the tax on alcohol for the year 1922 to 37 centavos per liter of 100 grade Gay-Lussac absolute alcohol made from grapes, and proportionately less for inferior grades; for 100 grade Gay-Lussac absolute alcohol produced in the mountains, 54 centavos per liter, and proportionately less for poorer grades; and for 100 grade alcohol produced on the coast, 77½ centavos per liter, and less for inferior grades. The foregoing charges have been approved by the Department of the Treasury.

FINANCIAL ADVISER.—Dr. W. W. Cumberland has resigned from the State Department of the United States to accept the position of financial adviser to the Peruvian Government.

REPUBLIC OF CENTRAL AMERICA.

FINANCIAL REPORTS OF GUATEMALA.—The Bureau of Accounts reported the following figures for the first six months of 1921:

	Pesos.	Dollars.		Pesos.	Dollars.
Department treasuries:			Special funds:		
Balance Jan. 1, 1921.....	4,031,255.12	15,696.68	Balance Jan. 1, 1921.....	915,763.05	17,040.75
Receipts.....	62,390,438.97	1,986,350.36	Receipts.....	17,000,145.95	96,948.35
Expenditures.....	61,055,689.56	1,946,283.20	Expenditures.....	17,363,609.53	109,086.44
Balance June 30, 1921.....	5,366,004.53	55,663.84	Balance June 30, 1921.....	552,299.42	4,902.66

CENTRAL AMERICAN MONETARY UNIT.—The Federal Council has fixed as the monetary unit of the Central American Republic a coin of 836 milligrams gold, $\frac{900}{1000}$ pure, equal to 50 cents, to be known as *el Centro Americano*.

MUNICIPAL BANK.—The Municipal Council of San Salvador intends to establish a municipal bank similar to those of some European and Argentine cities. The projected bank is to have savings and loan departments for municipal employees.

URUGUAY.

DISPOSITION OF \$7,500,000 LOAN.—A law has been passed making disposition of the \$7,500,000 loan, as follows: 2,351,387 pesos balance due on the current account of the Government with the Banco de la República at the end of 1920–21; 2,780,000 pesos for the same purpose as the 3,000,000 pesos of the conversion debt of 1918 authorized by the law of May 26, 1920; 1,000,000 pesos for the Treasury notes of

August 1, 1921; 1,275,000 pesos to build a railroad from San Carlos to Rocha; 300,000 pesos for drinking-water systems in the towns selected by the National Council of Administration; 1,000,000 pesos to construct a bridge at Barro del Río Santa Lucía; 200,000 pesos for the appropriation for the upkeep of bridges and roads; 200,000 pesos in fulfillment of the law of May 27, 1920; 200,000 pesos for new public works. The rest of the loan, with the exception of sums of 100,000 pesos and 252,933 pesos left unassigned, amounts to \$430,000 and 46,366.22 pesos and is to be used for the expenses incidental to the loan. The nominal sum of 3,000,000 pesos of the conversion and public works debt of 1918, issued in accordance with the law of May 26, 1920, replaced by section B of this law, will be reserved by the National Council of Administration in case of a deficit of the current fiscal year, to be used only after such deficit is legally recognized.



INTERNATIONAL TREATIES

BRAZIL.

IMMIGRATION CONVENTION BETWEEN BRAZIL AND ITALY.—On October 10 last a treaty was concluded in Rome between Brazil, represented by Ambassador Souza Leal, and the Italian Government for the purpose of regulating matters relating to immigration. The fundamental point in the negotiations preparatory to the conclusion of this treaty was the abrogation of the Prinetti decree, which placed so many obstacles in the way of Italian emigration to Brazil as to embarrass seriously the movement of Italians to that country.

The convention just concluded is received with enthusiasm by both Brazilians and Italians, and is expected to result in a great inflow of Italian settlers into Brazil.

The convention contains ample provisions for the protection of immigrants by the Federal Government, which is engaged to supervise their contracts with employers, and to encourage the organization and operation of cooperative societies of consumption, credit, production, labor, insurance, and relief.

INTERNATIONAL SANITARY CONVENTION—See page 197.

CHILE.

ARMS AND MUNITIONS CONVENTION.—Chile ratified by law No. 3,632 of 1921 the convention and protocol of Saint Germain-en-Laye concerning the control of traffic in arms and munitions.

COLOMBIA—UNITED STATES.

COLOMBIA—UNITED STATES TREATY.—The treaty of April 6, 1914, arranged between the United States and the Republic of Colombia, was ratified by the Colombian Congress and signed by the Acting President of the Republic and by the Minister of Foreign Affairs on December 24, 1921. It was approved by the United States Senate on April 19, 1921.

ECUADOR.

INTERNATIONAL AGREEMENTS.—The Legislature and President have officially approved the Universal Postal Convention, the final protocol of the same, the regulations for its execution, and the final protocol of the regulation; the convention concerning parcel post, the final protocol and the regulation for the execution of the convention; and the Hispano-American Postal Convention.



LEGISLATION

BOLIVIA.

IMMIGRATION LAW.—The immigration law promulgated on October 27, 1921, requires that every person entering the country must have the following documents: A passport from his native country with a complete personal description and finger prints, viséed by the Bolivian consuls along the course of the immigrant's journey; a health certificate stating that the bearer has no infectious or contagious disease, viséed by a physician of the place in which the immigrant last resided; a certificate from the community of residence that the immigrant has not been tried nor condemned for crimes during the last five years, and a certificate that he practices an honest profession. Minor children described in the passports of their parents are required only to have the health certificate showing freedom from disease.

MINING-TAX LAW.—The mining-tax law of 1920 has proved inadequate in the matter of providing revenue, and therefore the President in his October message asked for a revision of this statute.

BIRTH AND MARRIAGE REGISTRATION.—On August 11, 1921, the Government issued a decree requiring the registration by parish priests of births and marriages without reference to religious creeds. In the capitals of Departments and thickly populated districts this registration is to be made by the civil registration officials.

BRAZIL.

FREE ZONE IN PORT OF RIO DE JANEIRO.—Dr. Epitacio Pessoa, President of the Republic, has issued decrees Nos. 15038 and 15039 of October 6, 1921, authorizing the construction of a quay for the establishment of a free zone in the port of Rio de Janeiro. The respective plan, drawn up by the Federal Inspection of Ports, Rivers, and Canals, provides for the construction of a wharf to which vessels may come alongside, with a depth of 10 meters at low tide and having a length of 3 kilometers at Ponta da Ribeira, on the island of Governador, according to the provisions of No. XVI and its paragraph of article 96 of law No. 4242 of January 5, 1921. The construction of the first stretch, measuring 900 meters, is estimated in the decree at 29,969,840 milreis.

CHILE.

PROHIBITION BILL.—Congress has before it a message from the President proposing a bill which would establish dry zones in the coal-mining regions. In these zones the manufacture, sale, and all traffic in beverages of an alcoholic content greater than one-half of 1 per cent would be prohibited.

VENEREAL PROPHYLAXIS BUREAU.—A law of October 13, 1921, establishes under the Sanitation Department a venereal prophylaxis bureau which is to organize its work in every department of the country. The municipal Venereal Disease Institute of Santiago, started by Dr. Julio Bustos A., who is to be in charge of the Government bureau, was highly praised in the recent Medical Congress at Montevideo by an Argentine authority.

LIBRARIES.—The library system of Chile is organized by a decree issued by the Minister of Instruction on October 29, 1921, into three divisions—national, departmental, and school libraries. There shall be at least one library in every Department; where there is no such special library, that of the boys' or girls' liceo, the normal or commercial school, or the upper school of the departmental capital shall serve the purpose. Libraries shall be open on working days from 11 a. m. to 5 p. m. (See also p. 186.)

WORKMEN'S HOUSES.—A decree of October 29, 1921, authorized an 8 per cent bond issue to the amount of 1,000,000 pesos, the proceeds to be used by the Upper Council of Workmen's Houses for the construction of dwellings in Punta Arenas.

COLOMBIA.

COMPULSORY COLLECTIVE INSURANCE.—The Colombian Congress has approved law 37 of November 19, 1921, which reads in part as follows: Six months after the publication of this law all industrial, agricultural, or commercial firms, or those of any other kind permanently established in the country, whose pay roll amounts to or exceeds 1,000 pesos per month, must take out at their own expense collective life insurance policies in favor of all employees and workers in their respective factories. The face value of the policy must be equal to the yearly salary received by the employee, up to 2,400 pesos per annum. The insurance will not be contracted in favor of a definite person, but in favor of the company, which is obliged in case of death of the insured to pay the full value of the policy to his nearest relative whose name appears on the face of the policy at the time the death occurred.

MALPELO AND COCOS ISLANDS.—The House of Representatives has approved a bill assigning to the Department of El Valle the administration and control of the Colombian islands of Cocos and Malpelo, located on the Pacific Ocean, near Costa Rica. Cocos Island is $7\frac{1}{2}$ kilometers long by $6\frac{1}{2}$ kilometers wide and is surrounded by a group of smaller islands. It contains forests, abundant water, and a variegated fauna, and has two small bays known as Chatham Bay and Water Bay, deep enough to permit the entrance of any steamer. Its mountains have an elevation of more than 836 meters. Malpelo Island is $2\frac{1}{2}$ kilometers long by 1 kilometer wide and rises to an altitude of 253 meters. The high rocks of the shore serve as nests for thousands of sea birds, whose guano is extensively used in commerce as a fertilizer. There is a distance of 500 miles between the two islands.

CUSTOMHOUSE BUILDINGS.—The Congress of Colombia has passed a law appropriating 120,000 pesos for the construction of the necessary buildings for the customhouse of Buenaventura.

CENSUS OF 1918.—The National Congress has approved the census of the Republic taken on October 14, 1918. This census, beginning on January 1, 1922, will serve as a basis for all official matters, and will be published together with the memorandum presented to the Secretary of Finance by the Director of the Bureau of Statistics, and attested August 29, 1921.

CUBA.

PRESIDENTIAL MESSAGE.—President Zayas in his message to Congress on November 7, 1921, outlined the four prime objectives of his administration, which are: To leave the Republic without debts that are not consolidated; to restore special Treasury funds through ex-

tension of public works; to protect and aid production and industry; and to normalize the Government expenses with the Federal income. The message, which contains about 40,000 words, gives a complete accounting of the administration's activities during the first six months of its existence.

ADVISORY COMMISSION.—The President has issued a decree creating an advisory committee whose duties will be to study the present customhouse tariff and all sources of revenue of the Republic, and present to the Executive a memorandum suggesting the reforms that should be made in order to derive the greatest benefit from these sources of revenue, taking into consideration the necessity of reducing the cost of living and avoiding unnecessary trouble to the taxpayer.

DOMINICAN REPUBLIC.

COMMERCE CODE.—The following changes have been made in the Code of Commerce by Executive order No. 682: Article 110 shall read: Bills of exchange from one place to another or on the same place must be dated and show the amount payable, the name of the person who pays, the time and place of payment, the value paid in money, in goods, on account or in any other manner. The bill of exchange is to be drawn to the order of a third person or to the sender and must state whether it is the first, second, third, fourth, or other copy.

Article 618 is changed to read: Lawyers do not need special written power of attorney to defend a case in the courts of commerce, but are, nevertheless, subject to the same responsibility as that laid down in Título XVII of the Code of Civil Procedure. Any person not a lawyer undertaking the defense of a case must be authorized by the principal in the court or by power of attorney.

ECUADOR.

HOURS OF LABOR.—On October 8, 1921, the President signed the law changing the first article of the 8-hour law of September 12, 1916. This article now reads: "No day laborer, workman, employee in a store, office, industrial establishment, and in general no one engaged in any of sort of work, will be obliged to work more than eight hours a day, six days a week. The employer or superior will indicate the day of rest in the week." This article formerly read: "No day laborer, workman, employee in a store, office, or industrial establishment, and in general no one engaged in any sort of work will be obliged to work more than eight hours a day, six days a week, nor to work on Sundays or legal holidays."

TARIFF REVISION.—The President has been empowered by Congress to appoint a commission to frame a tariff revision bill to be presented to Congress at its next session.

NEW INDUSTRIES.—A recent law provides that the Executive may make contracts with persons desiring to establish new industries, allowing them exemption from taxes and duties upon machinery, and other concessions. A bond will be required from the prospective manufacturers for the establishment of their industries within the time allotted in the contract.

MUNICIPAL IMPROVEMENTS.—The city of Guayaquil has received authority to increase the tax on the linear frontage of buildings in order to purchase automatic sprinkling carts, garbage incinerators, and vehicles to be used in the sanitary service. The tax on the linear frontage of city lots has also been increased, and its proceeds may be used to guarantee a loan for a sum adequate for an electric-light plant.

NATIONAL DEFENSE TAXES.—A legislative decree which went into effect January 1, 1922, created new taxes and increased others for the purpose of national defense. The chief taxes are 100 per cent surcharge on licenses for unexploited mines; 5 per cent of the gross receipts of public spectacles, horse races, etc.; 10 centavos additional on each box of imported cigarettes; 20 centavos additional on each imported cigar; 20 sucres on each first-class passport and 5 sucres on those of other classes; 10 sucres additional on the registration or renewal of registration of trade-marks; 1 per cent on the annual income of all residents of Ecuador whose income exceeds 1,000 sucres and on that of persons deriving income from real or personal property in Ecuador; 5 per cent additional tax on the income of nationals and foreigners whose property is in Ecuador but who habitually live abroad, or who during the last five years have lived or live abroad, the same tax in the future being payable by all those living abroad for more than two consecutive years (students, diplomats, consular officers, and those in military service excepted); 50 per cent surcharge on import duties on foreign liquors, champagne, silk in the piece or silk articles, gold jewelry, precious stones, gold and silver objects, and 5 per cent ad valorem on automobiles, excepting automobile trucks and tractors and motors imported for transport or industrial promotion purposes. Additional decrees provide that funds collected for national defense are to be used chiefly for the development of aviation, especially the aviation school in Guayaquil, and for an army remount station. Three veterinary surgeons are to be employed abroad.

REPUBLIC OF CENTRAL AMERICA.

COMMISSIONS TO DRAFT LAWS.—Commissions have been appointed to draft the following laws for the Republic: General staff and organization of the Army; tariff; and banking and monetary law.

FEDERAL DISTRICT.—Decree No. 5 of the Provisional Federal Council has to do with the Federal District, formerly the Department

of Tegucigalpa. Among its provisions are the following: The Honduran courts remain as constituted with full jurisdiction in so far as this is not contradictory to the Federal laws and constitution. The governor of the Department becomes the governor of the District, directly responsible to the Provisional Federal Council. District funds will be collected as for the Department, and will be spent exclusively in the District, for public institutions, schools, communications, and similar purposes.

NEGRO IMMIGRATION.—The deposit required of a Negro entering the State of Guatemala has been raised from \$100 to \$200, which will be returned when the Negro leaves the State.

PUBLIC INSTRUCTION AND EDUCATION

ARGENTINA.

ARGENTINE STUDENTS FROM MEXICAN CONGRESS.—The representatives of the Argentine Student Federation stopped in New York on their way from the International Students' Congress lately held in Mexico City. Three of the representatives were on their way to Europe to establish branches of the International Federation in Spain, France, Italy, Germany, and Austria, and one was going to Peru. The second International Congress of Students is to be held in Buenos Aires in September, 1922.

CORRECTIVE GYMNASICS.—In the School for Delicate Children in the Parque Lezama special gymnastics are given under the close observation of the instructor, to correct physical defects and to improve health. Each case is studied separately. Violent games and over fatigue are prohibited as being detrimental to the upbuilding of the patients.

SCHOOLS OPEN DURING 1920.—The *Revista de Instrucción Primaria* published the number of schools open in Argentina during 1920 as follows: National Council of Education schools, 3,529; Ministry of Justice and Public Instruction, 82; official provincial schools, 4,222; private schools, 1,154; total, 8,987 schools. The attendance in these schools was as follows: National Council of Education schools, 13,347 students; Ministry of Justice and Public Instruction schools, 1,214; official provincial schools, 15,749; private schools, 5,131; total, 35,441 students.

SOCIETIES FOR POPULAR EDUCATION.—The Third Congress of Societies for Popular Education was held in October in the Medical

School. The delegates were well-known college and university professors and men eminent in journalism and in letters. Dr. Elvira Rawson de Dellepiane opened the meeting.

CONSERVATORY OF MUSIC.—The Conservatory of Music of Buenos Aires, founded by Mr. Albert Williams, director of this institution, on March 12, 1893, has 70 branches scattered over the Republic between Bahía Blanca and Salta and the Paraná and Mendoza. It is based on European traditions and counts among its patrons some of the most celebrated artists.

The conservatory also publishes a magazine called *La Quena*, the object of which is to spread musical knowledge and the newest and most perfect methods of cultivating this art.

BRAZIL.

INTERSTATE CONFERENCE OF PRIMARY SCHOOLS.—The Interstate Conference of Primary Schools, held in Rio de Janeiro in October and November, 1921, under the auspices of Dr. Ferreira Chaves, Minister of Justice, with the presence of delegates from all parts of Brazil, had for its outcome an expression of sentiment in favor of the nationalization of primary teaching. This sentiment is summed up in the conclusions referring to the creation of a "School fund" and the establishment of a National Council of Education. According to these conclusions, the function of the National Council would be to manage and inspect such schools as are maintained by the Federal Government, cooperate with the States in superintending subsidized schools and establish schools for adults and mentally deficient pupils. It would be the duty of the council to advise on the appointment of teachers for subsidized schools, except in the case of graduates from official schools, and to see that instruction in the Portuguese language and in Brazilian history and geography was imparted in a manner satisfactory to the requirements of the national education. It would be the duty of the State authorities to appoint teachers for subsidized schools, organize the program and employ every effort to secure the best work in the schools. The Union would establish normal schools in all parts of the country according to the requirements of each section and the financial resources in hand, until such time as the Federal Government, by previous agreement with the States, should take over the entire work of normal instruction. During the intervening period, the Union would promote an agreement between the States and the Federal District for the purpose of standardizing the courses and programs in all the normal schools of Brazil. The Union would strive to create one single teaching body, with the same ideals, the same equipment, and the same rights and guarantees. The chairs in the primary schools maintained by the

Union would be filled by graduates from Federal normal schools. In order to insure a permanent supply of teachers, the Federal authorities would request the municipal chambers to grant scholarships to their young men and women who might desire to study in the Federal normal schools.

CHILE.

INDUSTRIAL EDUCATION.—Of the three Government institutions for industrial education, only the Vocational School of Santiago, described in the December, 1921, number of the *Bulletin*, prepares its graduates to be technical experts, while the industrial schools of Chillán and Temuco simply give courses sufficient for skilled workmen and foremen. It has therefore been decided by the Government to correlate the courses of the latter schools with those of the first, so that graduates of the industrial schools may enter the Vocational School with advanced standing. Scholarships will be given to those needing them.

SCHOOL OF AGRICULTURE.—A new Government School of Agriculture, for which the sum of 200,000 pesos is available, will be built immediately in Aconcagua, the center of an agricultural district. This is in accordance with the Government policy of promoting agriculture. (See the first item under Chile, p. 172.)

COSTA RICA.

SAN JOAQUÍN SCHOOLS.—A group of San Joaquín teachers has organized, in connection with the schools, committees for providing clothing and cocoa, a first-aid cabinet, school savings banks, and associations to promote personal hygiene and school sanitation. The girls' school has an excellent garden and the boys' a field which they cultivate. The latter has produced corn worth 120 colones and a like sum is expected from the bean crop.

CUBA.

APPOINTMENT OF RECTOR OF UNIVERSITY.—Dr. Carlos de la Torre, notable naturalist and one of the most distinguished of Cuban professors, has been appointed president of the National University. In taking possession of his new place, Dr. de la Torre spoke of projected changes in the university curriculum, especially in the school of pedagogy, to which he hopes to give a practical trend. He desires to promote the organization of university teams for all kinds of sports and outdoor activities, and to provide living arrangements at a price within the reach of all. Dr. de la Torre holds the degree of doctor of science from Harvard University.

ECUADOR.

SCHOOL STATISTICS.—The Magisterio Ecuatoriano quotes from the report of the Minister of Public Instruction the following figures:

	Government schools.	Municipal schools.	Private schools.	Total.
Number.....	1,395	182	139	1,716
Number pupils registered.....	75,110	13,143	15,091	103,344
Average attendance.....	64,799	11,476	13,620	89,895

Of the 2,438 teachers, 205 are normal-school graduates, 251 have the first certificate (título de 1ª), 137 the second, and 935 the third, while 910 are without certificate.

COMMERCIAL STUDIES.—The Sociedad de Estudios Comerciales de Guayaquil proposes to furnish its members opportunities for scientific study of commercial problems; to give courses in mercantile education, both public and private; to conduct extended investigations and to fix principles and methods which would place the mercantile profession on a sound basis; to foster Government commercial schools; and to promote, with the help of the State and of other societies, the establishment of an office of international commercial information.

AGRICULTURE.—All national schools having sufficient funds will include the study of agriculture in their courses, the Colegio Vicente León of Latacunga alone excepted. Schools may use their funds preferentially for the course. The Consejo Interior de Instrucción Pública will arrange the courses of study in accordance with agricultural zones. From the appropriation for the experiment station at Chobo sufficient funds will be taken to support 15 scholarships, one for each Province. Municipal councils may also support scholarship pupils in the Ambato Farm School or the Chobo Experiment Station.

MILITARY TRAINING.—A legislative decree has made military training obligatory in secondary schools and universities.

MEXICO.

SCHOOL APPROPRIATION.—The Minister of Education plans to spend 27,000,000 pesos of the appropriation for schools in Mexico City itself and the surrounding towns. He also intends to add 72 night schools to the 100 already open and to establish 12 kindergartens.

STUDENTS' ALLOWANCES.—By a special proclamation of President Obregón, allowances of from 30 to 50 pesos per month have been provided for students willing to become trained teachers.

PANAMA.

VOCATIONAL SCHOOL.—The Vocational School of Panama is giving training to 50 boarding pupils, 30 scholarship students, and 8 indigenes assisted by the Government. The pupils in the ironwork section are making the iron doors for the penal colony of Coiba, and have executed other public and private commissions. Mechanical and foundry sections are under the charge of graduates of the school; in the latter a handsome bronze tablet was recently made to place on the French monument. There are also automobile, electro-mechanical, wood-cutting, and weaving sections. The director of the last-named section thinks that he can introduce hammock making and also the weaving of jipi-japa hats as new industries in the school and country, as the toquilla straw for the hats grows wild in the interior of the country.

The course is both theoretical and practical, but apprentices are taken for practical instruction alone. At the end of the four-year course pupils receive a diploma, while apprentices are given a certificate.

NIGHT SCHOOL FOR LABORERS.—The Engineering Society of Panama is planning the opening of a night school for laborers which will give a regular primary course and advanced training in trades.

PERU.

NORMAL SCHOOL.—The Alumni Association of the National Normal School recently held exercises commemorating the work of the founder and ex-principal of the school, Dr. Isidro Poiry, a well-known Belgian educator. Speeches were made by the Minister of Public Instruction, the president of the Normal School, and by a deputy who was one of Dr. Poiry's pupils. The portrait of the founder was then unveiled.

REPUBLIC OF CENTRAL AMERICA.

SCHOOL OF AGRICULTURE.—The three-year course of the Guatemalan School of Agriculture includes mathematics, history, geography, civics, and modern languages, as well as the sciences useful to the future agriculturalist and such technical subjects as farm building and accounting, rural law and economics, mechanics, and Central American crops. Time is also given to physical training and gymnastics.

COMMERCIAL ACADEMY.—The Sociedad de Auxilios Mutuos del Comercio and the Chamber of Commerce of Guatemala have formed a commercial academy to give an opportunity to clerks to prepare themselves for better positions.

PHYSICAL TRAINING.—An American expert has been engaged to take charge of physical training in the schools and army of El Salvador.

YOUNG WOMEN STUDENTS.—Seven young women, pupils of the Lycée Française of San Salvador, have been granted permission by the President to enter the National Institute (for boys) where they may prepare for the degree of bachelor of arts and sciences and later study for a professional career if they so desire.

URUGUAY.

INDUSTRIAL SCHOOLS.—A decree of November 4, 1921, regulates the industrial night courses. These courses will be given exclusively for men or for women, except in special circumstances, and will be established in connection with industrial primary or secondary schools or other schools subventioned by the State. The courses are given for two hours on every other evening, from March 1 to December 31. Mechanical drawing and applied mathematics form the basis of the program. Sufficient instructors must be provided so that no class is over 25 in average attendance. Men students must be over 17 years of age, and women over 15. Students who do not attend classes two-thirds of the time will be dropped, except under extenuating circumstances, and the reduction of trolley fares will not be granted except to students who have attended two-thirds of the classes during the previous months.

The Diario Oficial of September 16, 1921, publishes a decree regulating the sale of articles made in the industrial schools so as not to compete with manufacturers' prices. The profits are to be divided among the students, 75 per cent to those who participated in the work, and 25 per cent to those who have attended the classes regularly. Pupils of an industrial school doing work for the school are to be paid for it.

VENEZUELA.

SUBPRIMARY SCHOOL.—Ground for the subprimary school (Escuela Maternal) in Mérida has been given by the Municipal Council.



SOCIAL PROGRESS

ARGENTINA.

WORKMEN'S HOUSES.—The corner stone has been laid for the section of model workmen's houses to be built in a densely crowded district of Buenos Aires by the Unión Popular Católica Argentina, from the proceeds of a national contribution.

JEWISH ORPHANS.—The Jewish residents of Argentina have welcomed from the Ukraine 100 Jewish orphans ranging from 4 to 14 years. The children were taken to an asylum in Caballito. After they have been for a time in this home they will be sent to different agricultural colonies and vocational schools.

BOLIVIA.

BIRTH AND MARRIAGE REGISTRATION.—See page 187.

BRAZIL.

INTERNATIONAL SANITARY CONVENTION.—By decree No. 4349 of October 12, 1921, the President of the Republic, Dr. Epitacio Pessoa, sanctioned and promulgated an act of Congress approving the International Sanitary convention signed in Paris by the Brazilian delegates on January 17, 1918.

SANITARIUM FOR TUBERCULAR PATIENTS.—Dr. Epitacio Pessoa, President of the Republic, has issued a decree opening a special credit for the establishment of a tuberculosis sanitarium at Nova Friburgo, a city in the State of Rio de Janeiro, situated at an elevation of 2,835 feet above sea level, and celebrated for its excellent climate.

PROGRESS OF STUDY OF ESPERANTO.—Dr. Epitacio Pessoa, President of the Republic, entertained recently an important delegation of Esperantists, who called to thank His Excellency for the promulgation of the recent decree ranking the "Brazila Klubo Esperanto" as an organization of public utility.

CHILE.

LUNCH FOR SCHOOL CHILDREN.—The society called "Ollas Infantiles" furnishes lunch to approximately 2,000 of the school children of Santiago, who otherwise would suffer from lack of nourishment.

A great improvement in the physical and mental condition of these children has been noted. Under Government supervision one lunch room for 40 children is provided for every three schools. These Government lunch rooms were established in October, 1921.

MILK STATIONS.—Among the cities in which milk stations for babies (Gotas de Leche) are maintained are San Fernando, Talca, and Valdivia. The latter two have recently opened new buildings for this purpose. In Valdivia the daily attendance has reached 150. The work in Santiago and Valparaíso is already familiar to *Bulletin* readers.

NATIONAL LIBRARY.—The new edifice of the National Library in Santiago, which is to cost 8,000,000 pesos, is rapidly approaching completion. The building will have the most modern library equipment; including pneumatic tubes for sending books from one part of the building to another.

The director of the National Library last year sent a letter to all trade-unions of the city, announcing that for the special benefit of their members the library would be open on all working days except Saturday from 8.30 to 10.30 p. m., and on Sunday afternoons from 2 to 5.30.

PROHIBITION BILL.—See page 187.

VENEREAL PROPHYLAXIS BUREAU.—See page 187.

LIBRARIES.—See page 187.

WORKMEN'S HOUSES.—See page 187.

COLOMBIA.

LIBRARY "CAMILO TORRES."—The Colombian Academy of Jurisprudence has announced the opening of a public library which will be known by the name of "Camilo Torres" in memory of the great Colombian jurisconsult. The Government supplied the rooms for the library, which is located in the Palace of Justice of Bogotá.

COMPULSORY COLLECTIVE INSURANCE.—See page 188.

ECUADOR.

CHILD WELFARE CONGRESS.—The third American Child Welfare Congress will be held in Rio de Janeiro in August, 1922, in connection with the first Brazilian conference. Sr. don Aloysio de Castro, for the executive committee, has invited Dr. L. Izquieta Pérez to represent the executive committee in Ecuador. The second Congress was held in Montevideo March 17-24, 1918.

MILK STATION.—The second milk station, or Gota de Leche, was opened in Quito on October 9, 1921. Doctors attend both stations every afternoon.

LABOR UNION HEADQUARTERS.—Congress by legislative decree has given to the Sociedad Artística e Industrial del Pichincha a house

in Quito owned by the nation, this house to be administered by the society as headquarters for the labor unions of the capital.

HOURS OF LABOR.—See page 189.

HAITI.

RED CROSS.—In the annual Red Cross appeal for funds and members the Haitian Chapter states that in Port au Prince it has cared for over 40 cases of different diseases a day and hopes to extend free dispensary facilities to other Haitian towns.

MEXICO.

HANDWORK OF THE BLIND.—In one of the halls of the Department of the Interior were exhibited several articles made by the blind inmates of the asylum located on San Salvador el Verde Street in Mexico City. The exhibition consisted of hats, baskets, matting, rugs, brooms, and brushes manufactured from palm leaves and the fiber of the century plant. The directors of the asylum and a commercial company of Mexico have entered into a contract calling for delivery of a certain number of rugs and meters of matting, these being considered superior to the imported article. An exposition will be held in the near future for the purpose of showing these products.

PERU.

CASA DE SALUD REOPENS.—The hospital in Bellavista known as the Casa de Salud is again open to the public after being closed for a time while improvements were made.

CHILD-WELFARE ORGANIZATIONS.—In Lima and Callao the private and public institutions for child welfare are the Casa de Convalecencia for sickly public-school children; the Gotas de Leche (milk stations) founded by the Government; the Auxiliary Society, with its milk station, dispensary, and kindergarten; the Children's Protective Society, which also has a milk station; and the Institute for Blind Children.

SANITARY MEASURES.—In compliance with the sanitation program for Callao, business establishments have been asked to drain and apply petroleum to swamps on their property to do away with mosquitoes, and to drive out rats to avoid the propagation of contagious diseases.

REPUBLIC OF CENTRAL AMERICA.

CHILD WELFARE.—In the Gota de Leche of San Salvador Dr. J. Germán Castillo recently gave a popular lecture on the care and feeding of children. This lecture was delivered especially for untaught mothers.

LIBRARIES.—A popular library for workmen has been opened in Tegucigalpa on the initiative of the Mexican minister to Honduras. The town of Amapala, in Honduras, has also received a library as a gift from the University of Mexico in honor of Amado Nervo.

A children's reading room has been added to the Municipal Library of San Salvador which contains works on agriculture, ethics, history, geography, literature, and other subjects.

VENEZUELA.

RED CROSS DISPENSARY.—The Venezuelan Red Cross maintains a dispensary in Caracas visited daily by an average of 60 patients. Treatment is also given in the clinic to those suffering from venereal diseases.

INFANT WELFARE.—Members of various societies in Caracas have united to formulate plans for infant welfare, beginning with prenatal care.



GENERAL NOTES

ARGENTINA.

FOURTH ANNUAL EXPOSITION OF SOCIETY OF DECORATIVE ART.—The exposition of this society showed many interesting pieces of decorative sculpture, repoussé and open work in metals, leather work, shell, ivory, jewelry, glyptics, furniture, tapestry, and other branches of applied art. Book illustration was well represented.

BOLIVIA.

AMBASSADOR TO ARGENTINA.—Sr. don Eliodoro Villazón, former President of Bolivia, has recently been appointed ambassador to the Argentine Republic. He has had extensive legislative and diplomatic experience.

MILITARY MANEUVERS AND RED CROSS.—A section of the Bolivian Red Cross attended the military maneuvers held at Corocoro and Tareja with a hospital unit, and a supply of first-aid and comfort articles. The Red Cross will also establish a system of transmitting correspondence to those in the field.

CITY IMPROVEMENTS.—In both La Paz and Cochabamba the sanitation improvements are nearly complete, the work in La Paz being

95 per cent finished and in Cochabamba 70 per cent. The original plans in both cases have been changed to permit of the extension of sewers to localities not at first considered. (*President's message.*)

BRAZIL.

PREPARATION OF FILMS FOR THE CENTENNIAL.—The Minister of Justice has instructed all offices subject to his department to furnish the Executive Committee of the Centenary with detailed information regarding such moving-picture films as may be in their possession, with particular reference to the time when they were prepared, as well as information regarding the preparation of new films in accordance with the requirements of the official programme of the celebration. These films are to be shown within the exposition inclosure free of charge on special days, and are to portray the history, geography, and civilization of Brazil, through the exhibition of landscape views, customs, and types; clothing and housing; leading features of country and city life, with reference to beauty, culture, and progress.

WEEK-END CABLE RATES.—The All America Cables (Inc.) has established the following week-end rates for cablegrams between Brazil and the United States: Cables not exceeding 25 words, including name, address, and signature, may be sent "via Colon" for 5 dollars gold, or approximately 48 milreis. Additional words will cost about 1.79 milreis each. The company contemplates opening a branch office in Sao Paulo at an early date.

IMPORTANT PUBLICATION ON THE STATE OF RIO GRANDE DO SUL.—The exhaustive work of Senhor Alfredo Rodrigues da Costa, entitled "O Rio Grande por Dentro" is rapidly advancing toward completion, and is expected to be ready in time for the Exposition of the Brazilian Centenary, which will open September 7, 1922.

CHILE.

FLYING BOAT.—The large flying boat presented to Chile by the British Government has been christened *Zañartu*, in memory of the Chilean officer who lost his life in an airplane accident last year.

SMALLPOX.—Dr. Arturo Atria announced in October, 1921, that he believed that he had isolated the smallpox germ.

CUBA.

FIFTH MEDICAL CONGRESS.—The session of the Fifth National Congress of Medicine was held in the hall of the Academy of Sciences of Habana, December 12-17, 1921. Among the representatives were prominent physicians from the medical schools of France, the United States, Colombia, Mexico, Nicaragua, and Porto Rico. There were 1,700 delegates participating in this assembly.

ECUADOR.

BACTERIOLOGIST.—Dr. Francisco Rojas, a young physician, has gone to New York to accept a position in the bacteriological laboratories of the Rockefeller Foundation. The brilliant work of Dr. Rojas attracted the attention of Dr. Noguchi when the latter was visiting Ecuador.

MEXICO.

GENERAL HOSPITAL.—The General Hospital of Mexico City under the jurisdiction of the Public Benevolent Society has just spent 200,000 pesos in carrying out necessary repairs and the purchase of modern surgical instruments. The hospital has efficient departments devoted to osteopathy, hydrotherapeutics and electropathy. A magnificent gymnasium equipped with modern apparatus is used for the treatment of certain diseases. The hospital also contains well-equipped Russian and Turkish baths, besides a tiled swimming pool. The electrical department is equipped with modern appliances for the application of electrical treatment and baths of different degrees of current. This also contains the X-ray apparatus donated to the hospital by President Obregón during the celebration of the Centenary of Independence of Mexico. The hospital contains 21 wards, 10 of which are devoted to women and the rest to men. There is also a special maternity department, attended by competent obstetricians, a section for children, a ward for contagious diseases, and one for paying patients. The remaining departments are divided into 2 large wards, each of which contains 36 beds.

NICARAGUA.

WIRELESS STATION ACCEPTED.—The Nicaraguan Government has accepted the gift of a wireless station from the Mexican Government. It is possible that the station will be erected in the Parque Darío, Managua, in front of the lake. Communication will be maintained with Bluefields, Prinzapolka, and Cape Gracias, all within Nicaraguan territory.

PARAGUAY.

NEW AVENUE.—The Avenida Venezuela has been finished and connects with the finest boulevard of the Republic, the Jardín Botánico y Zoológico of Trinidad.

MEDICAL MISSION TO BRAZIL.—Dr. Hackett, director of the branch of the Rockefeller Institute in Sao Paulo, Brazil, has invited the Paraguayan Government to send a representative physician of Paraguay to take the two months' course given by the institute in methods employed against malaria and hookworm. Dr. Juan Francisco Recalde is the physician appointed.

PERU.

SPANISH POLICE MISSION.—The Spanish police mission contracted by the Peruvian Government arrived in Lima November 22 and is taking up the reorganization of the police force.

PERUVIAN AUTHOR WINS PRIZE.—The Peruvian author of "Vendida," Señorita Angélica Palma, won a triumph in a literary contest for Spanish and Spanish-American writers held in Buenos Aires. The name of the prize-winning work was "Coloniaje Romántico," written under the pen name of "Marianela."

REPUBLIC OF CENTRAL AMERICA.

JOURNEY OF PAN AMERICAN OFFICIAL.—The Honorable L. S. Rowe, Director General of the Pan American Union, has been commissioned by the Governing Board of the Union to make a journey to the Central American Republics. Dr. Rowe sails from New York on February 4 for Puerto Barrios. After visiting Guatemala, Dr. Rowe will go to Honduras, El Salvador, Nicaragua, and Costa Rica.,

MOSQUITO-DESTROYING PLANT.—The Ministry of Agriculture of Guatemala has received dried and live specimens and seeds of the plant Chara, commonly known as the stonewort or brittlewort, which is said to be fatal to the larvæ of the Anopheles, Culex, and Stegomyia mosquito in the water in which the plant is located. This wort has the faculty of collecting lime from the stones of its habitat and is frequently encrusted with it. The present specimens were sent by the Guatemalan consul in Barcelona, Spain, who hopes that the cultivation of this plant will help to rid Latin-American countries of the propagators of malaria and yellow fever.

VISITING BOTANIST.—Mr. Paul C. Standley, of the United States National Museum, left Washington early in December for a botanical collecting trip in Central America, under the auspices of the National Museum, Harvard University, and the New York Botanical Garden. He will spend four or five months in Guatemala and Salvador, collecting specimens of plants and notes upon their uses. The data so obtained are to be used in the preparation of a descriptive and illustrated account of the flora of Central America and Panama, which will be published by the United States National Museum.

BACTERIOLOGICAL LABORATORY AND HOOKWORM TREATMENT.—Dr. Charles A. Bailey, of the Rockefeller Foundation, head of the Salvadorean State Department of Hookworm Prevention, in December established a bacteriological laboratory as a part of the system of hygiene in the General Sanitation Bureau. The cost, which was \$1,500, was paid by the Foundation.

According to the figures of the Department of Hookworm Prevention, during the week ending October 22, 981 persons were added to the list of patients; 1,227 microscopical examinations were

made; 676 cases of hookworm diagnosed; cases of other parasites, 686; 520 received first treatment for hookworm; 232, second treatment; 84, third treatment; 74, fourth treatment; 6, fifth treatment; and 1, a seventh treatment. Treatment for other parasites was given to 294. After a second treatment 95 were cured; after third treatment, 27; after fourth treatment, 13; after fifth treatment, 4; and after the sixth treatment, 1. Four hundred and seventy-nine pamphlets were distributed and 120 consultations were given.

HISTORICAL SALVADOREAN DOCUMENTS.—The Salvadorean Ministry of Foreign Affairs and Public Instruction has recently edited a collection of documents copied from the *Archivo Histórico de Indias* of Seville as a souvenir of the Centenary. These documents give early precolonial and colonial data on Salvador.

URUGUAY.

NATIONAL MEDICAL CONGRESS.—In the meeting of the Second National Medical Congress held last fall, plans were made to hold the next congress in Montevideo in 1925. A tentative program was suggested for the consideration of the Third Congress, on which were the following topics: Fight against cancer in Uruguay; infant mortality; house sanitation; prophylaxis of epilepsy; gastric troubles frequent in Uruguay; antituberculosis measures on new basis; means of arousing interest in child welfare among doctors, local authorities and the people.

Different sections of the Second Medical Congress made valuable suggestions to the various authorities. Among them were: Prophylaxis against typhoid, campaign against the disease-carrying fly, the formation of permanent committee to combat the carbuncle, and a section to consider the teaching of sex hygiene in the public schools. The veterinary section made a number of recommendations regarding the study of animal diseases and their relation to man.

GAUCHO MONUMENT.—On September 26, in Montevideo, the commission of judges passed on the various models submitted in the competition for the equestrian monument to the Uruguayan Gaucho. The first prize was awarded to the model entitled "Alsina," by José Zorilla de San Martín; the second prize to the model "Centauro," by José Barbieri; and the third prize to the model "Guazubirá," by Pascual Guissani and Francisco Zorilla de San Martín. The conditions of the contest were published in the August, 1921, number of the *Bulletin*.

VENEZUELA.

TREATMENT OF LEPROSY.—Dr. Aaron Benchetrit has been studying in Hawaii the use of chaulmoogra oil in the treatment of leprosy. Dr. Benchetrit found his studies extremely interesting, especially the preparation of the Dean derivatives of the oil.

SUBJECT MATTER OF CONSULAR REPORTS

REPORTS RECEIVED TO DEC. 20, 1921.

Subject.	Date.	Author.
ARGENTINA.		
Destination of exports from Jan. 1 to Aug. 31, 1921.....	Oct. 15	W. Henry Robertson, consul general at Buenos Aires.
Fisheries and the markets for fish products.....	Oct. 19	Do.
Argentine and Uruguayan wool exports for 10 so-called seasons.....	Oct. 20	Do.
Report of the history, work, and service of the United States Chamber of Commerce in Buenos Aires.....	Oct. 24	Do.
Proposed railway lines in Patagonia.....	Oct. 25	Do.
Court decision in regard to the constitutionality of the new rental law.....	Oct. 28	Do.
Disallowance of Argentine railway tariff increases.....	do.	Do.
Arrival of vessels at Buenos Aires during the first 9 months of 1921.....	do.	Do.
Argentine budget law for 1921.....	Oct. 29	Do.
Cereal prices.....	do.	Do.
Exportable surpluses of wheat, linseed, and maize.....	Oct. 31	Do.
First official estimate of area sown to wheat, linseed, and oats.....	do.	Do.
Condition of Buenos Aires banks at the end of Sept. 30, 1921.....	do.	Do.
Export taxes for the month of November, 1921.....	Nov. 4	Do.
Construction in northern Argentina.....	Nov. 8	Wilbert L. Bonney, consul at Rosario.
BRAZIL.		
Annual report on commerce and industries for the year 1921.....	Oct. 3	A. Gaulin, consul general at Rio de Janeiro.
Bahia import trade and commercial review for 1920.....	Oct. 7	Thos. H. Bevan, consul at Bahia.
Bahia State export taxes.....	Oct. 14	Do.
Cotton industry in Brazil.....	Oct. 26	A. Gaulin.
Market for electrical supplies.....	do.	C. R. Cameron, consul at Pernambuco.
Pernambuco as a distributing station.....	Oct. 27	Do.
Statement of imports from all countries for month of September, 1921.....	Nov. 3	Geo. A. Pickereil, consul at Para.
CHILE.		
Economic and descriptive data concerning Valdivia.....	Sept. 30	Dayle C. McDonough, consul at Concepcion.
Economic and descriptive data concerning Osorno, and Talcahuano.....	Nov. 14	Do.
Fisheries and the market for fish products.....	Nov. 15	Do.
Economic and descriptive data concerning Talca, Chillan, and Traiguen.....	do.	Do.
Commercial conditions in Tarapaca during October, 1921.....	Nov. 2	Homer Brett, consul at Iquique.
Market for American-made stoves in Chile.....	Nov. 7	C. F. Deichman, consul general at Valparaiso.
COLOMBIA.		
Development project in Barranquilla.....	Oct. 31	Edmund B. Montgomery, vice consul at Barranquilla.
Translation of address on Colombian-grown cotton.....	Nov. 4	Leroy R. Sawyer, consul at Santa Marta.
Free exportation of gold.....	Nov. 17	E. C. Soule, consul at Cartagena.
Banks and banking institutions in Colombia.....	do.	Edmund B. Montgomery.
Economic notes from Colombia.....	Nov. 19	Do.
COSTA RICA.		
Foreign trade of Costa Rica for 1920.....	Sept. 20	W. D. Smith, jr., vice consul at San Jose.
New patent requirements.....	Nov. 2	Henry S. Waterman, consul at San Jose.
October report on commerce and industries.....	Nov. 6	Do.
Cement market in Costa Rica.....	Nov. 19	Do.
The market for stoves.....	Nov. 21	Do.
CUBA.		
New Cuban experimental station.....	Oct. 29	Frank Bohr, consul at Cienfuegos.
Market for musical instruments.....	Nov. 8	Harold D. Clum, consul at Santiago de Cuba.
Market for American millinery.....	do.	Do.

Reports received to Dec. 20, 1921—Continued.

Subject.	Date.	Author.
ECUADOR.		
Ecuadorian market for certain food products.....	Sept. 21	Frederic W. Goding, consul general at Guayaquil.
Life and accident insurance of workmen in Ecuador.....	Oct. 19	Do.
New Ecuadorian industries.....	Oct. 21	Do.
Funds for dredging the Guayas River.....	Oct. 26	Do.
Repeal of law prohibiting exportation of foodstuffs.....	do.	Do.
Ecuador's imports of foodstuffs in 1920.....	Oct. 29	Do.
Cacao growing in Ecuador.....	Nov. 2	Do.
New contracts for public works authorized.....	Nov. 7	Do.
New municipal taxes.....	Nov. 8	Do.
Construction of a highway from Esmeraldas to Santo Domingo..	Nov. 11	Do.
Law providing funds for dredging Jubones River.....	Nov. 14	Do.
GUATEMALA.		
Annual report on commerce and industries for 1920.....	Oct. 4	Arthur C. Frost, consul at Guatemala City.
Report on commerce and industries for July and August, 1921...	Oct. 24	Do.
Proposed income-tax law.....	Nov. 3	Do.
Maritime movement at Puerto Barrios during July and August, 1920 and 1921.	do.	Do.
Guatemalan receipts and expenditures for August, 1921.....	Nov. 21	Do.
Guatemalan telephone company asks for increase in rates.....	Nov. 23	Do.
HAITI.		
Market for stoves.....	Oct. 13	Robert Dudley Longyear, vice consul at Port au Prince.
Foreign importation statistics for extracted honey.....	Nov. 8	Avra M. Warren, consul at Cape Hatien.
HONDURAS.		
New direct service to Europe from west coast of Central America.	Nov. 5	G. K. Donald, consul at Tegucigalpa.
Statistics of port of Amapala, October, 1921.....	Nov. 11	Do.
MEXICO.		
Increase in foreign shipping at Tampico.....	Nov. 4	Claude I. Dawson, consul at Tampico.
Tax on Mexican fisheries.....	do.	William C. Burdett, consul at Ensenada.
Spiny lobster fisheries of Lower California.....	do.	Do.
Abalone fisheries of Lower California.....	Nov. 5	Do.
Quantity of last year's garrazo crop on hand.....	Nov. 8	Francis J. Dyer, consul at Nogales.
New shrimp packing industry at Guaymas.....	Nov. 12	Bartley F. Yost, consul at Guaymas.
The tomato industry of Sinaloa.....	Dec. 1	William C. Burdett.
A building boom in Ciudad Juarez.....	Dec. 5	John W. Dye, consul at Ciudad Juarez.
PANAMA.		
Market for musical instruments.....	Nov. 5	George Orr, consul at Panam a City.
September report on commerce and industries.....	do.	Do.
Laws and regulations regarding preparation of power of attorney in Panama.	Nov. 15	Do.
Imports and exports for 1920 and first half of 1921.....	Nov. 25	Do.
Development of the manganese deposits in the Province of Colon.	Nov. 26	Do.
PARAGUAY.		
Fisheries and the market for fish products.....	Oct. 26	Harry Campbell, consul at Asuncion.
No American chamber of commerce in Asuncion.....	Oct. 28	Do.
Appropriations of Paraguay for fiscal year 1921-22.....	Nov. 2	Do.
Export taxes on importations into the United States.....	Nov. 3	Do.
SALVADOR.		
Exportation of coffee from 1911 to 1920.....	Oct. 22	Lynn W. Franklin, vice consul at San Salvador.
Total trade of Salvador for calendar year 1920.....	Oct. 31	Do.
URUGUAY.		
Decrease in farm holdings in Uruguay.....	Oct. 24	David J. D. Myers, consul at Montevideo.
Studies of agriculture in normal schools.....	do.	Do.
No American chamber of commerce at Montevideo.....	Oct. 25	Do.
Grains sown for 1921-22 crop.....	Nov. 7	Do.
VENEZUELA.		
Fisheries and the market for fish products.....	Oct. 15	William A. Hickey, vice consul at Maracaibo.
Coffee shipments for October, 1921.....	Oct. 31	Do.
Bags for coffee.....	Nov. 9	Wm. P. Garrety, consul at Puerto Cabello.
Report on commerce and industries for October, 1921.....	Nov. 13	S. J. Fletcher, vice consul at La Guaira.

BOOK NOTES

[Publications added to the Columbus Memorial Library during August, 1921.]

(Continued from the January number.)

UNITED STATES.

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- History of the New York Times 1851-1921. By Elmer Davis. New York, The New York Times, 1921. front. port. illus. xxii, 434 p. 8°.
- Introductory survey of colonial tariff policies. United States Tariff Commission. Washington, G. P. O., 1921. vi, 79 p. 8°.
- List of recent references on the income tax. Compiled under the direction of Herman H. B. Meyer. Library of Congress. Washington, 1921. 96 p. 8°.
- A merchant marine and a marine insurance company. By William Patrick Hackney, Winfield, Kansas. [1921.] 46 p. 8°.
- Official report of the eighth national foreign trade convention held at Cleveland, Ohio, May 4, 5, 6, 7, 1921. New York. Issued by the Secretary National Foreign Trade Convention Headquarters, 1921. xxxi, 328 p. 8°.
- Schedule of rates for supplies and service furnished to shipping and allied interests at the Panama Canal. (Superseding Panama Canal tariff No. 4 and all supplements thereto.) In effect July 1, 1921. Mount Hope, C. Z., The Panama Canal Press, 1921. 42 p. 8°. [Tariff No. 5.]
- Training for the public profession of the law. Historical development and principal contemporary problems of legal education in the United States with some account of conditions in England and Canada. By Alfred Zantzing Reed. New York, Carnegie Foundation for the Advancement of Teaching, 1921. xviii, 498 p. 8°.
- War powers of the executive in the United States. By Clarence A. Berdahl, Ph.D. Urbana, Published by the University of Illinois, 1920. 296 p. 8°.

URUGUAY.

- Anuario estadístico correspondiente a 1919. Este número contiene estadísticas referentes a: 1° accidentes del trabajo. 2° migración del trabajo. 3° oferta y demanda de trabajo. 4° artículos de primera necesidad. 5° conflictos del trabajo. 6° ahorro popular. 7° varios (Descanso obrero, trabajo de mujeres y niños y su remuneración filantropía). Montevideo, Imprenta Nacional, 1920. fold. tables. 108 p. 8°.
- Código penal y código de instrucción criminal . . . Cuarta edición, corregida y aumentada. Montevideo, A. Barreiro y Ramos, Editor. 1920. 370 p. 8°.
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- Diario de sesiones de la h. cámara de representantes sesiones extraordinarias del 3er período de la XXV legislatura. Tomo CCLII del 23 de Septiembre de 1916 al 23 de Enero de 1917. Montevideo, Imprenta Siglo Ilustrado, 1921. xxiv, 603 p. 4°.
- La naturaleza. Geografía. Tercer grado. Por Arturo Carbonell Debali. Montevideo, A. Monteverde & Cia., 1921. map. 30 (3) p. 8°.
- Legislación aduanera. Leyes, decretos, resoluciones y reglamentos correspondientes a las aduanas de la república Oriental del Uruguay. Recopiladas por Vicente B. Antuña. Publicación autorizada por el superior gobierno 1920 Tomo VII. Montevideo, Editor, "El Ateneo," 1920. 182, vi, x p. 8°.

- Opiniones sobre el proyecto de código rural, del Dr. Daniel García Acevedo. Montevideo, Imp. "El Siglo Ilustrado," 1918. 36 p. 12°.
- Proyecto de código rural. Por el Dr. Daniel García Acevedo. Montevideo, Imprenta Nacional, 1917. 111 p. 8°.
- Registro nacional de leyes, decretos y otros documentos. Tomo 1-2. 1919. Publicación oficial. Montevideo, Imprenta Nacional, 1920. 12°. 2 vols.

VENEZUELA.

- Crustacea from Lake Valencia, Venezuela. By A. S. Pearse. From proceedings of the United States National Museum, Vol. 59, pages 459-462. Washington, G. P. O., 1921. 8°.
- Cuenta del Ministerio de Fomento presentada al congreso de los Estados Unidos de Venezuela en 1921. Caracas, Empresa El Cojo, 1921. fold. tables. 89 p. 4°.
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- Decreto orgánico de sanidad nacional. Oficina Central de Sanidad Nacional. Caracas, Tip., América, 1921. 21 p. 8°.
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- Discurso pronunciado por el Pbro. Carlos Borges en el inauguración de la Casa Natal del Libertador, restaurada por el gobierno de la rehabilitación nacional 5 de Julio de 1921. Fiestas centenarias de Carabobo. [Maracaibo], Empresa Panorama, 1921. 27 p. 8°.
- Estadística mercantil y marítima semestre de Enero a Junio de 1920. Edición oficial. Ministerio de Hacienda. Caracas, Tipografía Americana, 1921. 141 p. 4°.
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- Reglamento sobre notificación y profilaxia de enfermedades. Oficina Central de Sanidad Nacional. Caracas, Tip. América. 1921. 18 p. 8°.

GENERAL BOOKS.

- Addresses at the fifteenth annual meeting of the American Society of International Law. By the Hon. Elihu Root. New York, American Association for International Conciliation, 1921. 27 (3) p. 12°. Cover title. (August, 1921, No. 165.)
- Overseas trade. New York, T. B. Browne Ltd., 1921. 8°. pamph.

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Zimmermann on ocean shipping. By Erich W. Zimmermann, Ph. D. New York, Prentice-Hall, Inc., 1921. illus. xvi, 691 p. 8°.

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Commercio exterior do Brasil. Janeiro a Dezembro, 1916, 1917, 1918, 1919, 1920. Directoria de Estatistica Commercial. Rio de Janeiro, Monotypado nas officinas da Estatistica Commercial, 1921. 125 p. 4°. (Text in Portuguese, English, and French.)

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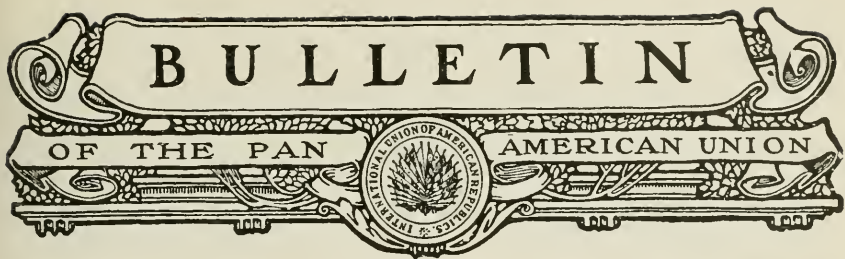
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MOUNT VERNON PLACE AND THE WASHINGTON MONUMENT, BALTIMORE.

Baltimore will be the scene of the Pan American Conference of Women, April 20 to 29, 1922.



VOL. LIV

MARCH, 1922

No. 3

PROJECTED CONFERENCE BETWEEN CHILE AND PERU

AT a meeting of the governing board of the Pan American Union, February 8, 1922, Sr. Dr. Beltrán Mathieu, the Ambassador from Chile, in referring to the recent Conference for the Limitation of Armament, addressed the following remarks to Charles Evans Hughes, Secretary of State of the United States, and Chairman of the Governing Board:

MR. SECRETARY:

The world's opinion has been formed as to the results of the Washington conference which has just brought its labors to a close with the plaudits of all mankind ringing in its ears. This universal applause was the more intense in view of the doubts with which the peoples, who had begun to feel themselves dominated by a general scepticism, had received President Harding's so happily inspired invitation.

Although attendance upon the conference was limited to certain countries, and to special interests, its effects were not so limited. The spirit of the conference, the patience and wise labor of the statesmen who composed it, have created an atmosphere and pointed out the way. More than this, it has awakened a universal conscience that now believes in peace, that confides in peace, and will in the future force the nations to seek peace by means of those methods rather than by resort to force of arms.

May we not be permitted to felicitate Secretary Hughes, our distinguished presiding officer, upon the successes in which he took such a leading part, since we have followed as sympathetic witnesses his great efforts toward the end now achieved?

May we not be permitted to express our appreciation of the feelings of confidence that have followed in the wake of this great event and that will especially permeate the atmosphere of this our Pan American home, under the roof of which has been written this beautiful page of history?

The Secretary of State, in reply, expressed himself as follows:

MY DEAR MR. AMBASSADOR AND GENTLEMEN OF THE GOVERNING BOARD:

Permit me to express the deepest appreciation of the sentiments that have been voiced by the Ambassador of Chile. It was my privilege, at the Conference on the Limitation of Armament, to express on behalf of all the delegates to that conference the gratitude which they felt for the action taken by the representatives of Latin America in permitting the use of this building for the purposes of the conference. It was a matter of regret that the Republics of Latin America could not take part directly in the proceedings of the conference, but that was by reason of the definite and limited objects of the conference. Still, I hope that you all felt that you had a measure, and a very important degree of participation, and that this building will always be invested with the most gracious memories by reason of the fact that the conference met within its walls. In this governing board room the heads of the delegations met and planned the order of procedure of the work of the conference. In this room also were held the meetings of the various technical subcommittees in preparing the work for the full committees of the conference. Here, also, met the Chinese and Japanese delegates, and it was at this table that the Shantung controversy was settled. [Applause.] That, I think you will agree with me, was one of the happiest events of this important period.

In the Columbus Room, on the other side, met the Committee on the Limitation of Armament and also the committee dealing with Far Eastern questions, and through these spacious halls and corridors the delegates, almost every day for a period of nearly three months, passed to and fro, enjoying the privileges of those intimate interchanges which made possible their final agreement.

All parts of this building, in one way or another, were utilized in the work of the conference. No place could have been better adapted for that work. The surroundings of any undertaking are important, but when there is a great international meeting, it is most fitting that it should be appropriately housed. It was a matter of great pleasure to the American delegation that through your courtesy this building could be used for the committee work, as the Hall of the Daughters of the American Revolution was used for the plenary sessions.

I have said that the conference had a certain definite and limited aim. That is true, and that is the reason why the conference succeeded. The Ambassador of Chile has well observed, however, that its effects are not as limited as its definite purposes. The naval powers which were engaged in active and really wasteful competition in the building of monster ships for fighting purposes have reduced their navies and agreed upon an effective limitation. [Applause.]

The indirect effect of that, I think, is very great. The fact that sea power has been bounded in this matter is a considerable achievement, the example of which can not fail to have effect in other countries.

Peoples are not disposed at this time to see moneys raised by taxation spent unnecessarily on instruments of destruction. I take it that the powers not represented in this conference will voluntarily very largely limit their expenditures for military and naval purposes, because of the public opinion aroused throughout the world through the work that this conference has done.

It is true that we did not succeed in effecting a limitation of auxiliary craft—that is, a limitation by agreement. But in limiting the size and number of these capital ships with respect to which the competition in construction was most keen, there has been in practical result a limitation upon auxiliary craft which will be observed in every country. There will be no disposition to permit extravagant outlays for these purposes.

Again, in connection with the difficult Far Eastern problems, it has conclusively been shown that where there is a disposition to reach amicable adjustments it is not profitless to take counsel together. The most acute difficulties can be settled. In

this conference there was, on the part of all the delegations, a generous desire to cooperate which was manifested at every stage of the proceedings. We spent no time over details of procedure. We all had our national interests to safeguard; we proceeded as directly as possible to the ends to be attained. I think there is more hope in the world to-day [applause] because of what was achieved. We have had aspirations; we have had an intense desire to promote peace, but the way has been difficult and concrete dispositions have been relatively rare. It is fortunate that renewed hope may now spring up among the peoples of the earth that this dream which has been entertained so long is not incapable of realization. We have at least taken a long stride forward toward the goal that we have set before us. This hemisphere is peculiarly devoted to the interests of peace [applause]. Our relations are intimate; our interests are interlaced and the condition which in all our countries we most desire is that of peaceful industry and happy intercourse with reciprocal advantages.

I hope that you will feel in Latin America that while you were not direct participants in this conference you are all strengthened and reassured because it has been held. Again, let me thank you most heartily, Mr. Ambassador, for the kindness which you have shown in the remarks you have made, and also express my gratitude for the many courtesies that have been enjoyed at the hands of this organization. [Applause.]

During the course of the meeting, Secretary Hughes suggested as a tangible proof of the spirit of fraternity which animates the board that the hospitality of the Pan American Building be extended to the delegates to the approaching Chilean-Peruvian Conference—a suggestion which was accepted with the most cordial unanimity. The Chilean Ambassador, in particular, expressed his pleasure in the following terms:

For my part I am indeed grateful for the suggestion formulated by the Honorable Secretary of State and accepted by my distinguished colleagues, by which the hospitality of this edifice is extended to the projected conference between representatives of Chile and Peru. I am the more grateful because, in the remarks of the Honorable Secretary of State regarding the agreements reached at this same table by the delegates to the recent conference, I see a happy augury for the solution of the question to be discussed here by the Chilean and Peruvian delegates; and I can assure you that it will be in this same spirit that we shall attend the conference agreed upon, thus fully honoring the courteous suggestion of the Honorable Secretary of State.

His Excellency, Sr. Don Federico Alfonso Pezet, Ambassador of Peru, who because of illness was unable to attend the meeting of the governing board, expressed his sentiments in this matter in a letter dated February 11, 1922, addressed to Dr. L. S. Rowe, Director General of the Pan American Union, in the following terms:

May I, therefore, ask you to permit me to voice my sentiments as Ambassador of Peru in thanking their Excellencies the Secretary of State and my distinguished colleagues in the name of my Government and in my own for the unanimous support given to the motion of the Secretary of State to place the Pan American Palace at the disposal of the Governments of Chile and Peru for the holding of our conferences. I feel that no better use could be given to the noble building than to be the meeting place for the representatives of two American Republics in their honest endeavor to seek a solution of a long-time unfortunate dispute.

I most earnestly express the desire that in the serene atmosphere of this Capital City and in the home of the Pan American Union, the reunion of the sister Republics may be an accomplished fact.

THEFT AND PILFERAGE IN THE UNITED STATES EXPORT AND IMPORT TRADE

By S. S. HUEBNER.

Expert in Insurance to the Committee on the Merchant Marine and Fisheries of the House of Representatives.

WITHIN recent years, losses through theft, pilferage, and nondelivery have reached enormous proportions in American commerce. The point has been reached where this form of economic waste is proving such a powerful deterrent to our export business as to require immediate action, both Governmental and private. As the chairman of the Committee on Theft and Pilferage of the American Manufacturer's Association, representing between 70 and 80 per cent of the exporters of the United States, testified before the subcommittee on Marine Insurance of the Committee on the Merchant Marine and Fisheries:¹ "It is almost a truism to say that the foreign commerce of this country can not go on unless we reduce theft and pilferage; we can not continue to deliver merchandise contrary to the way it is ordered."

To a large extent, the problem is world-wide. But our leading competitors, particularly Great Britain, have already undertaken to eliminate the causes of the trouble. It is essential that we keep pace with our competitors in the solution of the difficulty. The nation that effects a substantial improvement will be at a decided advantage in foreign markets as compared with countries which neglect the matter and continue to operate under the present conditions of appalling waste. The problem is strategically associated with the development of our foreign trade opportunities and the maintenance of an American merchant marine. Failure to act promptly, with a view to at least meeting the efforts of leading competitors along the same line, will soon be bitterly regretted.

¹ Hearings on the subject of theft, pilferage, and nondelivery of export and import shipments were held before the subcommittee on Marine Insurance of the Committee on the Merchant Marine and Fisheries House of Representatives, July 18-20, 1921.

EXTENT OF LOSS THROUGH THEFT AND PILFERAGE.

Nowhere is the extent of such loss more accurately reflected than in the rates charged by marine insurance companies for that type of hazard. A collection of such rates from leading American underwriters shows that, with respect to many of our foreign markets, the insurance rates covering theft, pilferage, and nondelivery are in excess—in some instances many times in excess—of those charged for all of the ordinary marine risks pertaining to cargo. Reliable reports, submitted to the Subcommittee on Marine Insurance last July, indicate that within the past two years theft and pilferage rates were increased from 200 to 500 per cent, and in a number of instances over 1,000 per cent, depending upon the market under consideration. Moreover, at the lower rates underwriters assumed the business willingly, whereas at the higher rates business is only taken more or less under pressure and under exceptional circumstances.

The experience of a number of leading underwriters, who may be regarded as representative, will serve to emphasize the problem. Thus with respect to the Insurance Company of North America, theft and pilferage losses paid during 1916 amounted to \$35,574, an amount equal to 3 per cent of the total losses paid by the company on all marine cargoes of every sort shipped to and from the United States. In 1917 the company paid \$78,064, equal to 6.8 per cent of the total cargo losses, while in 1918, 1919, and 1920 the respective theft losses were \$108,839, \$332,041, and \$1,027,414, and the respective percentages of such losses to the entire cargo losses, 8.5 per cent, 27 per cent, and 28 per cent. During the first four months of 1921 the theft losses paid by this company amounted to \$411,348, or at the rate of 43 per cent of the cargo losses. These figures, it should be noted, do not include inland marine risks, but are limited to ocean-going general merchandise of all kinds other than cotton. As the company points out, many of these kinds of merchandise, such as iron, hemp, jute, etc., suffer comparatively small theft losses, which would, of course, increase the percentages on the remaining classes of merchandise.

The experience of the Atlantic Mutual Insurance Co. is equally astounding. During 1919 and 1920, that company collected \$469,609 in net theft and pilferage premiums and paid out in losses that were presented to the company by March 1, 1921, \$536,773. No allowance having been made in these figures for the cost of operation, the company reports a loss of at least \$140,000 on this type of business for the two years in question, notwithstanding the fact that "during that period we had made drastic revisions of the rates to endeavor to keep up with the increase in losses, because month after month we found that the number of claims being presented was increasing

and the aggregate amount of these claims was mounting." Moreover, owing to the company's method of statistizing, "nondelivery" losses were not included in the above figure, although this type of loss, chiefly due to theft, also showed an enormous increase. Again, while the premium income can be determined accurately, it is impossible to know what the losses against premiums will be until months after the shipment leaves port. The company assumes accordingly that its experience, as finally determined, will be even more unfavorable than that indicated. In March, 1921, eight New York underwriting offices combined their figures covering theft, pilferage, and nondelivery losses paid for the three months of November and December, 1920, and January, 1921. As reported to the Congressional committee, the aggregate loss was \$1,204,073, being at the rate of over \$4,800,000 a year for the eight offices only. This figure, however, by no means represents the total loss, since there must be added the losses (1) of all the rest of the underwriting market, (2) those sustained by shippers who carried no theft and pilferage insurance, (3) those on imports into this country insured in the countries of origin and, (4) those on exports from this country insured in the countries of destination.

Such heavy losses are naturally reflected in insurance rates. Prior to the war, only nominal theft and pilferage charges were made in connection with merchandise shipments, the rates to South American ports, for example, ranging from $\frac{1}{4}$ per cent to 1 per cent. By July, 1921, the rates varied from $\frac{3}{8}$ of 1 per cent to the United Kingdom, 1 to $1\frac{1}{2}$ per cent to France and Spain, 4 to 5 per cent to Portugal, 3 to 5 per cent to Italy, and 5 to 15 per cent to Mexico and South America, depending on the ports under consideration. It is evident, therefore, that the problem is practically worldwide in extent. Complaints, however, have been particularly numerous with respect to the increase of losses, due to short delivery, in our Latin-American trade.

The insurance companies must not be blamed for having advanced their rates so greatly. Rates of insurance, made as they are in a competitive market, must reflect the loss they are intended to cover plus cost of operation and a reasonable profit. The facts submitted during the recent investigation in Congress would indicate that no such profit has been made by the underwriters. Instead, a considerable number of American companies found it necessary by the middle of 1921, despite the high rates, to withdraw altogether from this field of insurance. Underwriters, generally, have protested strongly against existing conditions, contending that the risk of theft and nondelivery is transferred entirely to them, despite the fact that they do not have the cargo within their custody and are thus not in position to exercise any supervisory control. Even when

accepting the theft and nondelivery hazard, practically all leading underwriters follow the plan, with respect to the hazardous routes, of agreeing to pay not more than 75 per cent of any such claim, the merchant being obliged to be a co-insurer for the balance. Merchants are thus placed in a very difficult position, especially since many, if not most, of the carriers assume only a nominal liability under their bills of lading, and often expressly exempt themselves from all liability for theft and pilferage losses.

THEFT LOSSES MILITATE AGAINST FOREIGN TRADE PROSPECTS.

The foregoing statement of losses and insurance rates indicates the existence of an intolerable economic waste requiring correction at the earliest possible date. Even ignoring the element of foreign competition such needless waste should not be countenanced. But the fact is that foreign competition does enter into the problem most vitally. The high increase in rates to cover the theft hazard will represent a decided differential *against* our exports if any of our competitors should precede us in reducing such losses for their merchants. Under such circumstances existing abnormal insurance rates add to our exports a cost so high as to result in prohibitive prices for our products in the foreign market.

Reduction of theft losses will redound to the benefit of all parties concerned, namely, shipper, carrier, consignee, and consumer. With respect to the shipper, present losses tend to kill his trade through the loss of his customers. Actual loss of the goods pilfered by no means constitutes the whole burden involved. Many prominent exporters have advised the writer that an even more exasperating phase of the problem is the loss of their market, developed only after long effort and great expense, through the dissatisfaction of consignees at not receiving their goods as per the terms of the agreement. Merchants only take insurance as a precautionary measure—as indemnity against possible loss—and have no desire to lose their merchandise in order to collect the insurance in dollars. What they want to do is to deliver their goods in the foreign market in sound condition, and in that way to give satisfaction to the trade. It is, therefore, a terrible discouragement to the shipper to be deluged with complaints from consignees and to be unable to convince them that the nondelivery of the merchandise is not due to any fault of his, that the goods were in good condition when delivered to the carrier, and that the matter was entirely beyond his control. Besides this, there is the trouble and expense of presenting and collecting numerous claims, a factor which in itself constitutes so substantial an overhead charge as to render competition difficult. Nor is the shipper able to place the burden of loss on the consignee by contractual arrangement. Exporters testified that even where the consignee assumes the risk of loss the matter is reflected

right back to the shipper with the result that, rather than lose the trade permanently, the latter assumes the loss or endeavors to collect it with a view to reimbursing his customer. In certain trades also the American exporter will be in competition with local manufacturers of the same product who are not obliged to meet the theft hazard now associated with ocean trade and who, therefore, need not charge up theft insurance in the price of their merchandise. Under such circumstances the handicap of the American shipper may easily be understood.

From the foreign consignee's standpoint, it is clear that he buys goods and not dollars. He buys goods because he needs them, and is quite as anxious as the shipper to have them arrive safely. Mere payment of theft losses in dollars can not be expected to placate him for the nondelivery of the merchandise itself. The foreign buyer wants to get his goods on time and at the least expense. Desiring the goods, let us say, for the spring trade, he orders them in time with this object in view. Imagine his temper when, instead of the goods, he receives only empty cases or explanations. As one witness testified: "He is left without the ability to sell goods. Before he can buy a fresh supply his season is past and gone." With his overhead largely fixed he has been deprived of the opportunity, because of the absence of goods, of making his expected trade profit. And even where a portion of the consignment arrives, it is important to bear in mind that the sales price of that part will tend to be sufficiently increased to cover any loss incurred on the nondelivered portion. The ultimate consignee pays the cost, insurance, and freight, and these items, together with his expected trade profit, are passed on by him to the consumer. Hence, heavy theft and pilferage losses increase prices to the ultimate consumer. "The cost of all the goods shipped," as the saying is, "has to be charged against the percentage that arrives sound."

By thus burdening shippers and consignees, directly and indirectly, theft and pilferage is responsible for the killing of trade in certain lines of merchandise and the serious reduction of traffic in many others. The disastrous effect upon ocean carriers must be apparent. After all, *freight* is the proverbial goose that lays the golden egg for carriers. It would seem that they should be most anxious to cooperate in the stamping out of the nefarious practice of pilfering cargo. The writer's attention has been called to many instances where valuable freight accounts have been shifted from one carrier to another simply because of a more reasonable disposition on the part of the new carrier to protect cargo and to settle theft claims promptly and equitably. Ocean carriers above all other interests, it would seem, should be anxious to enhance friendly commercial relations between the United States and its southern

neighbors. Yet in this trade, particularly, the theft and pilferage hazard has been responsible, by creating an unfavorable impression regarding the honesty of American exporters, for undoing much of the good that other agencies are so earnestly trying to accomplish in the way of cultivating freindly relations.

SUGGESTED REMEDIES.

Goods in passing from warehouse to warehouse, via railway, dock, ship, and foreign port, are necessarily in the possession of different interests. It is therefore difficult to determine at what particular stage of the entire process of transportation loss or damage to goods, especially through theft or nondelivery, has taken place. Insurance alone, it is clear, does not constitute a remedy. The mere payment of insurance claims does not reduce the economic waste one bit. The remedy lies in reducing or eliminating theft itself, as far as possible, at each stage of the international transportation. There is no royal road to a solution. Substantial headway in stamping out the practice can only be expected through cooperative effort on the part of all interests concerned, each with respect to the particular stage of the voyage during which it has custody of the goods. With this thought in view, the following program is suggested:

(1) *Improving the police and magisterial situation at our ports.*—Underwriters, shippers, and ship operators were a unit in testifying during the recent investigation that much of the pilfering is done by truckmen handling packages between terminals; by longshore- or lightermen during the handling incident to stowage on ship board, including careless handling for the express purpose of facilitating theft, and by persons who obtain access to piers or stations while the goods are waiting transportation. The three interests referred to also emphasized the leniency with which theft of this kind is treated by the local authorities at many ports, and also pleaded the necessity of cooperation on the part of local authorities to secure conviction of "fences" which make a practice of purchasing the stolen goods. It was the general feeling of witnesses appearing before the Committee, that acts of this character should be dealt with severely by the local authorities. The Committee on the Merchant Marine and Fisheries, in cooperation with the United States Shipping Board, has already communicated with the mayors of our seaports and the governors of our maritime States with a view to having these authorities use every available means adequately to safeguard our commerce and effectively to detect and speedily punish those who are causing the trouble. The response has been very reassuring, and at various leading ports the situation is already receiving much more effective handling by the police authorities than was previously the case.

(2) *Inducing shippers, especially through their leading organizations, to improve their methods of packing, to mark packages in such manner as not to reveal their contents wherever that is possible, and to employ only bonded truckmen wherever possible, and, where independently employed, bonded lighterage and stevedoring concerns.*—The Committee on the Merchant Marine and Fisheries is now communicating with the leading shippers' organizations of the country, representing some 90 per cent of the Nation's exporting and importing interest, with a view to having them cooperate, and to influence their membership, along the various lines indicated. Considerable loss, it is true, is occasioned by the failure to pack into adequate containers the goods described in the bill-of-lading, and this sort of moral hazard will always have to be contended with to a certain extent. Yet much of the theft loss is attributable to the shipper's ignorance or indifference. Shippers have it within their power to materially reduce the theft and pilferage hazard by constructing packages so that they will indicate on examination the effort of having been opened. Nor is there any need for plastering the package with all sorts of advertising matter, indicating the nature of the contents. Certain excellent manuals in the interest of proper packing are readily available and their widespread use should be brought about through educational efforts on the part of our leading shippers' and commercial organizations.

(3) *Increasing the liability of carriers for theft and pilferage losses, where traceable to the negligence of the carrier, with a view to bringing about a greater exercise of care.*—A substantial part of theft losses occur while the cargo is in the custody of the carrier. Underwriters and shippers were a unit during the recent investigation in asserting that under their bills-of-lading carriers assumed virtually no responsibility, and that as a consequence there was no inducement for the exercise of reasonable care and diligence. The remedy, it was argued, should be in the direction of getting ocean carriers back to their former responsibility which they have been permitted by statute and court decisions to contract themselves out of. Underwriters, particularly, contend that the entire risk of theft and nondelivery is transferred to them, without their being in a position to exercise any control whatever.

As an incentive to proper care, it seems reasonable that carriers should be prevented from inserting provisions in their bills-of-lading to the effect that "the carrier is not responsible for pilferage or loss of contents," or that "if the carrier becomes liable for any damage or loss to said merchandise he shall have the benefit of all insurance on said merchandise, etc.," or that "the carrier shall not be liable for any loss which can be insured against." It also seems reasonable (1) to require the carrier to assume liability for a much higher value (say \$500) per package than the present nominal valuation of only

\$100; (2) to have the burden of proving freedom from liability rest with the carrier, instead of with the shipper, whose disadvantage in this respect must be apparent since he does not have custody of the goods when they are lost; and (3) to require a reasonable time for the filing of claims instead of the ridiculously brief period (often only three or five days) now provided under many bills-of-lading. These and other bill-of-lading provisions, now commonly used by our ocean carriers, are being carefully studied, and it is hoped that, as a result, there will soon materialize a bill-of-lading better adapted to a spirit of fairness and more conducive to the protection of shippers.

(4) *Reducing losses at foreign ports.*—This phase of the problem is, of course, beyond the control of the United States. During the recent congressional hearings there was much criticism of practices prevailing at certain foreign ports, and the wide difference in insurance rates attaching to our various foreign trade routes clearly indicates that the theft and pilferage hazard is not attributable solely to conditions prevailing in this country. As late as November 17, 1921, the writer received a communication from a prominent foreign source, explaining that most of the importers of that country had experienced losses on high-priced goods coming through a given port of that country which averaged 40 per cent of their total value over the past year, and that they were instructing their shippers in the United States to send all goods in the future via another port of the same country, as losses from pilferage at that port of entry were usually much smaller. We must and should frankly admit that a large share of the loss occurs at our own end of the line. But it is also evident that something should be done to improve conditions at the foreign end of the line. The problem is a mutual one. As indicated, we are attempting definite ways and means of improving our own situation. We sincerely hope, however, that efforts will also be made simultaneously to improve conditions at the other end of the line.



THE "HAGUE RULES" AND BILLS OF LADING ∴ ∴

A CONSTANTLY growing dissatisfaction has developed in recent years among shippers, insurance men, and underwriters with the lack of uniformity in ocean-going steamship bills of lading and the increasingly manifest disposition of steamship companies to exempt themselves from every possible liability, until, as has been stated in Dr. Huebner's very timely article elsewhere in this present issue of the *BULLETIN*, the steamships are, under the terms of their bills of lading, practically free from liability in connection with the safe conduct and delivery of their cargo.

This dissatisfaction was very clearly voiced in the hearings on theft and pilferage in the House of Representatives last July and, later, in the sessions of the Maritime Law Committee of the International Law Association at The Hague, the deliberations of the latter body resulting in a comprehensive and far-reaching agreement, which, if put into practice in the form of a bill of lading, would go far toward removing the dissatisfaction to which reference has been made.

Since the agreement in question is the only carefully considered, comprehensive, and specific proposal thus far submitted, it is to be hoped that it will have the support of merchant shippers, at least to the extent of directing the attention of their respective carriers thereto.

The full text of The Hague agreement follows:

ARTICLE I.—DEFINITIONS.

In these rules—

(a) "Carrier" includes the owner or the charterer who enters into a contract of carriage with a shipper.

(b) "Contract of carriage" means a bill of lading or any similar document of title in so far as such document relates to the carriage of goods by sea.

(c) "Goods" includes goods, wares, merchandise, and articles of every kind whatsoever except live animals and cargo carried on deck.

(d) "Ship" includes any vessel used for the carriage of goods by sea.

(e) "Carriage of goods" covers the period from the time when the goods are received on the ship's tackle to the time when they are unloaded from the ship's tackle.

ARTICLE II.—RISKS.

Subject to the provisions of Article V, under every contract of carriage of goods by sea the carrier, in regard to the handling, loading, stowage, carriage, custody, care, and

unloading of such goods, shall be subject to the responsibilities and liabilities, and entitled to the rights and immunities, hereinafter set forth.

ARTICLE III.—RESPONSIBILITIES AND LIABILITIES.

1. The carrier shall be bound before and at the beginning of the voyage to exercise due diligence to—

(a) make the ship seaworthy;

(b) properly man, equip and supply the ship;

(c) make the holds, refrigerating and cool chambers, and all other parts of the ship in which goods are carried, fit and safe for their reception, carriage and preservation.

2. The carrier shall be bound to provide for the proper and careful handling, loading, stowage, carriage, custody, care, and unloading of the goods carried.

3. After receiving the goods into his charge the carrier or the master or agent of the carrier shall on the demand of the shipper issue a bill of lading showing amongst other things—

(a) the leading marks necessary for identification of the goods as the same are furnished in writing by the shipper before the loading starts, provided such marks are stamped or otherwise shown clearly upon the goods if uncovered, or on the cases or coverings in which such goods are contained, in such a manner as will remain legible until the end of the voyage;

(b) the number of packages or pieces, or the quantity or weight, as the case may be, as furnished in writing by the shipper before the loading starts;

(c) The apparent order and condition of the goods.

Provided that no carrier, master or agent of the carrier shall be bound to issue a bill of lading showing description, marks, number, quantity, or weight which he has reasonable ground for suspecting do not accurately represent the goods actually received.

4. Such a bill of lading issued in respect of goods other than goods carried in bulk and whole cargoes of timber shall be prima facie evidence of the receipt by the carrier of the goods as therein described in accordance with section 3 (a), (b) and (c). Upon any claim against the carrier in the case of goods carried in bulk or whole cargoes of timber the claimant shall be bound notwithstanding the bill of lading to prove the number, quantity or weight actually delivered to the carrier.

5. The shipper shall be deemed to have guaranteed to the carrier the accuracy of the description, marks, number, quantity, and weight as furnished by him, and the shipper shall indemnify the carrier against all loss, damages, and expenses arising or resulting from inaccuracies in such particulars.

6. Unless written notice of a claim for loss or damage and the general nature of such claim be given in writing to the carrier or his agent at the port of discharge before the removal of the goods, such removal shall be prima facie evidence of the delivery by the carrier of the goods as described in the bill of lading, and in any event the carrier and the ship shall be discharged from all liability in respect of loss or damage unless suit is brought within 12 months after the delivery of the goods.

7. After the goods are loaded the bill of lading to be issued by the carrier, master, or agent of the carrier to the shipper shall, if the shipper so demands, be a "shipped" bill of lading, provided that no "received for shipment" bill of lading or other document of title shall have been previously issued in respect of the goods.

In exchange for and upon surrender of a "received for shipment" bill of lading the shipper shall be entitled when the goods have been loaded to receive a "shipped" bill of lading.

A "received for shipment" bill of lading which has subsequently been noted by the carrier, master, or agent with the name or names of the ship or ships upon which the

goods have been shipped and the date or dates of shipment shall for the purpose of these rules be deemed to constitute a "shipped" bill of lading.

8. Any clause, covenant, or agreement in a contract of carriage relieving the carrier or the ship from liability for loss or damage to or in connection with goods arising from negligence, fault, or failure in the duties and obligations provided in this article or lessening such liability otherwise than as provided in these rules shall be null and void and of no effect.

ARTICLE IV.—RIGHTS AND IMMUNITIES.

1. Neither the carrier nor the ship shall be liable for loss or damage arising or resulting from unseaworthiness unless caused by want of due diligence on the part of the carrier to make the ship seaworthy, and to secure that the ship is properly manned, equipped, and supplied.

2. Neither the carrier nor the ship shall be responsible for loss or damage arising or resulting from—

(a) act, neglect, or default of the master, mariner, pilot, or the servants of the carrier in the navigation or in the management of the ship;

(b) fire;

(c) perils, dangers, and accidents of the sea or other navigable waters;

(d) act of God;

(e) act of war;

(f) act of public enemies;

(g) arrest or restraint of princes, rulers, or people, or seizure under legal process;

(h) quarantine restrictions;

(i) act or omission of the shipper or owner of the goods, his agent or representatives;

(j) strikes or lockouts or stoppage or restraint of labor from whatever cause, whether partial or general;

(k) riots and civil commotions;

(l) saving or attempting to save life or property at sea;

(m) inherent defect, quality, or vice of the goods;

(n) insufficiency of packing;

(o) insufficiency or inadequacy of marks;

(p) latent defects not discoverable by due diligence;

(q) any other cause arising without the actual fault or privity of the carrier, or without the fault or neglect of the agents, servants, or employees of the carrier.

3. Any deviation in saving or attempting to save life or property at sea or any deviation authorized by the contract of carriage shall not be deemed to be an infringement or breach of these rules or of the contract of carriage, and the carrier shall not be liable for any loss or damage resulting therefrom.

4. Neither the carrier nor the ship shall be responsible in any event for loss or damage to or in connection with goods in an amount beyond £100 per package or unit, or the equivalent of that sum in other currency, unless the nature and value of such goods have been declared by the shipper before the goods are shipped and have been inserted in the bill of lading.

By agreement between the carrier, master, or agent of the carrier and the shipper another maximum amount than mentioned in this paragraph may be fixed, provided that such maximum shall not be less than the figure above named.

The declaration by the shipper as to the nature and value of any goods declared shall be *prima facie* evidence, but shall not be binding or conclusive on the carrier.

5. Neither the carrier nor the ship shall be responsible in any event for loss or damage to or in connection with goods if the nature or value thereof has been wilfully mis-stated by the shipper.

6. Goods of an inflammable or explosive nature or of a dangerous nature, unless the nature and character thereof have been declared in writing by the shipper to the

carrier before shipment and the carrier, master, or agent of the carrier has consented to their shipment, may at any time before delivery be destroyed or rendered innocuous by the carrier without compensation to the shipper, and the shipper of such goods shall be liable for all damages and expenses directly or indirectly arising out of or resulting from such shipment. If any such goods shipped with such consent shall become a danger to the ship or cargo they may in like manner be destroyed or rendered innocuous by the carrier without compensation to the shipper.

7. A carrier shall be at liberty to surrender in whole or in part all or any of his rights and immunities under this article, provided such surrender shall be embodied in the bill of lading issued to the shipper.

ARTICLE V.—SPECIAL CONDITIONS.

Notwithstanding the provisions of the preceding articles, a carrier, master or agent of the carrier and a shipper shall in regard to any particular goods be at liberty to enter into any agreement in any terms as to the responsibility and liability of the carrier for such goods, and as to the rights and immunities of the carrier in respect of such goods, or his obligation as to seaworthiness, or the care or diligence of his servants or agent in regard to the handling, loading, stowing, custody, care, and unloading of the goods carried by sea, provided that in this case no bill of lading shall be issued and that the terms agreed shall be embodied in a receipt which shall be a non-negotiable document and shall be marked as such.

Any agreement so entered into shall have full legal effect.

ARTICLE VI.—LIMITATIONS ON THE APPLICATION OF THE RULES.

Nothing herein contained shall prevent a carrier or a shipper from entering into any agreement, stipulation, condition, reservation, or exemption as to the responsibility and liability of the carrier or the ship for the loss or damage to or in connection with the custody and care and handling of goods prior to the loading on and subsequent to the unloading from the ship on which the goods are carried by sea.

ARTICLE VII.—LIMITATION OF LIABILITY.

The provisions of these rules shall not affect the rights and obligations of the carrier under the convention relating to the limitation of the liability of owners of sea-going vessels.

RESOLUTIONS.

As recommended by the maritime law committee and passed unanimously by the International Law Association in their meeting at The Hague on the 3d day of September, 1921.

1. That in the opinion of this association international overseas trade and commerce will be promoted and disputes avoided, or the settlement thereof facilitated, if the rights and liabilities of cargo owners and shipowners, respectively, are defined at an early date by rules of a fair and equitable character with regard to bills of lading which shall be of general application.

2. That the association approves under the name of "The Hague Rules, 1921," the rules as to carriage by sea framed by its maritime law committee which have been settled during this conference after consultation with representatives of the interests concerned from numerous maritime States, and recommends the same for international adoption. For the purpose of securing prompt and effective action the association relies upon the continuance of the cooperation among shipowners, shippers, consignees, bankers, and underwriters present and represented at the conference which appears to render this proposal at the present time a practical means of progress.

3. That in the opinion of the International Law Association, these rules should apply to ships owned or chartered by any government other than ships exclusively employed in naval or military service.

4. That these rules be published in English and French, the official languages of this conference.

5. That in the opinion of this association the use of the shipping documents known as "received for shipment" bills of lading and like documents has become in many cases a necessity of commerce. This association is therefore of opinion that the interests concerned should cooperate to remove difficulties which at present attend the use of such documents in the cases in which the necessity for their use is generally recognized.

6. Whereas, special legislation on the subject dealt with by these rules exists in various States and is proposed in other States, and whereas it will only be possible in such States to bring these rules into operation if they be in accord with national legislation, it is in the opinion of this association desirable in order to secure uniformity that such legislation or proposed legislation shall be brought into harmony with these rules.

7. That the executive of the maritime law committee be and is hereby authorized and requested to continue its action, in conjunction with the representative bodies and interests concerned, in order to secure the adoption of the said rules so as to make the same effective in relation to all transactions originating after January 31, 1922.



DONA ISABEL OF BRAGANÇA AND ORLEANS, EX-PRINCESS IMPERIAL OF BRAZIL

By LANGWORTHY MARCHANT,

Pan American Union Staff.

THE death of Dona Isabel of Bragança and Orleans, Countess d'Eu, and former Princess Imperial of Brazil, which occurred in Paris on the 14th of November last, struck a note of deep sorrow throughout the Brazilian Republic. Mourning for the venerable lady, daughter of Dom Pedro Segundo the Magnanimous, who thrice occupied the chair of state in the character of regent, and who, but for the revolution, would, in the natural course of events, have ascended the throne as Empress of Brazil, is not confined to any class, any religion, any political creed. Naturally her loss is felt most keenly among the survivors of the old imperial nobility, her acquaintances and personal friends, from whom she had been separated since the expulsion of the imperial family in 1889; but she is remembered with mingled feelings of admiration and respect by the historic Republicans, participants in the revolution, which encompassed the downfall of her dynasty, while, among the Brazilians of the younger generation, I do not suppose there is one who does not feel a thrill of patriotic pride at the mention of his illustrious compatriot, who left so glorious an imprint upon the pages of his country's history.

Dona Isabel Christina Leopoldina Augusta Michaela Gabriela Raphaela Gonzaga, Princess Imperial of Brazil, heir presumptive to the crown, was born in the Palace of São Christovão on the 29th of July, 1846, and was christened in the Imperial Chapel on the 15th of November of the same year.

On the 15th of October, 1864, she was married, in the city of Rio de Janeiro, to Prince Louis Philippe Marie Gaston d'Orléans, Count d'Eu, a grandson of King Louis Philippe, of France.

The couple had three children, all sons: Dom Pedro, now the only surviving child, born on the 15th of October, 1875; Dom Luiz, born



From an old portrait.

DONA ISABEL, PRINCESS IMPERIAL.

on the 26th of January, 1878; and Dom Antonio, born on the 9th of August, 1881.

Dona Isabel was a shining example of all the domestic virtues for which the typical Brazilian wife and mother is conspicuous. The Count, her husband, had been accorded by Parliament the title of Prince Imperial, and Consort. Technically, however, he had no direct part in the Government. Yet he was constantly busy in affairs of public interest, exerting himself in matters of education and social progress, in all of which things the Princess made it a point that he should take the lead. During the Paraguayan War he was created marshal of the empire, and distinguished himself in that long and arduous campaign.

Dona Isabel occupies a place of peculiar distinction in Brazilian annals because of her direction of public affairs during the three periods in which she served as Regent. Paradoxical though it may appear to one not familiar with the evolution of the Brazilian nationality, Dona Isabel inherited from her imperial father the passion of democracy, and, while she accepted the pomp and trappings of her station as something which seemed to symbolize and substantiate the national institutions, her every thought on public affairs was bent toward the uplifting and advancement of the people as a whole. The poor and lowly were the objects of her special regard, and she devoted a great part of her time and resources, when not occupied with political affairs, to the organization and maintenance of institutions of a public-spirited and philanthropical character.

The condition of the slaves appealed to her very strongly. African slavery existed in Brazil, as in the United States, as a relic of colonial conditions. As in the United States, the institution was felt to be an evil, which must disappear sooner or later, the "when" being a matter dependent on economical expediency. Slavery in Brazil was not characterized by any particular forms of cruelty or severity in comparison with the institution as it had existed in other countries, but there was a sentiment in favor of emancipation which extended as far back as the last quarter of the eighteenth century, a sentiment in which even many slaveholders participated. After the middle of the nineteenth century emancipation activities began to take on a more definite form.

For a proper understanding of the problems of this stage of Brazilian politics one must bear in mind that there were two constitutional parties—the Conservative and the Liberal. The Conservatives stood for permanence, the stabilization of the existing institutions. They were the unconditional supporters of the throne, the defenders of the imperial prerogatives and of the centralization of power in the capital; and, of course, they favored the continuation of slavery. The Liberals were for diminishing the prerogatives of the crown.

They favored the diffusion of power among the provincial assemblies and the municipalities, and, in general terms, they desired the adoption of some policy leading to the suppression of slavery.

It was part of the system that a defeated ministry could not stand, unless the sovereign chose to dissolve Parliament, in which case he must immediately call an election. Thus the sovereign might, if he saw fit, appoint a ministry from the minority, if he had reason to believe the majority had failed to voice the will of the constituents, and the issue was decided by an appeal to the voters.

Dom Pedro Segundo, to whom is due the credit of the complete development of the parliamentary system of government in Brazil, could work equally well with either party. Sometimes the Conservatives remained in power during long periods of time, and sometimes the Liberals held the reins year after year. On the other hand, it sometimes occurred that a party held office only during the interval between the dissolution of one Parliament and the convention of its successor.

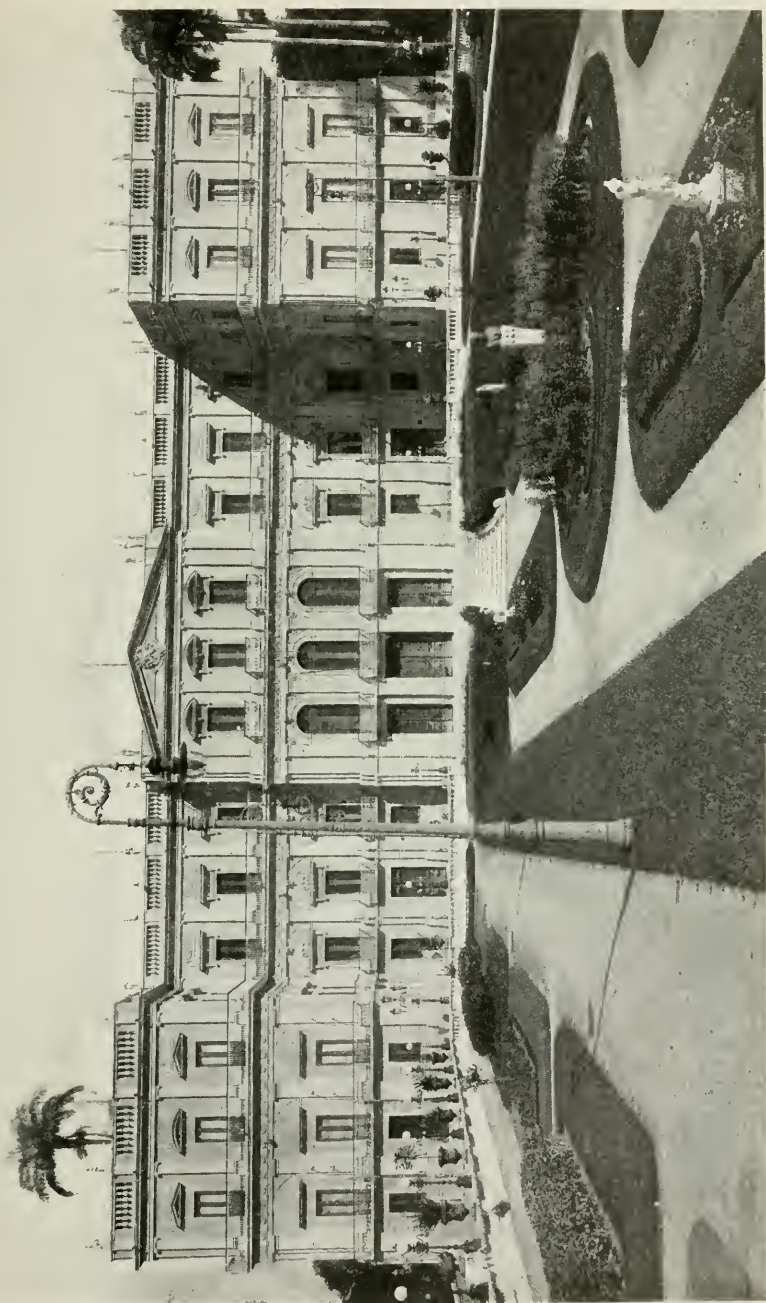
All this accorded with the plan of evolutionary progress which Dom Pedro Segundo had adopted as the invariable policy of his reign. His method was to seek the advancement of all the national interests, being always careful, however, not to do anything which might endanger the security, I will not say of the Empire or the throne, but the transcendent fact of the national unity, which it was the destiny of his family to save and perpetuate.

This is why he was always on the watch to discover the deep-running currents of public sentiment, which it was always possible for him to meet and satisfy by seeing to it that the vital tendencies of the country were uppermost in the Council of State. Evidently the parliamentary system as he developed it was the only one which would have enabled him to attain his object.

As regards the matter of slavery, Dom Pedro was desirous, from motives of humanity, to bring the institution to an end as speedily as possible; but he did not wish to do this at the risk of throwing the country into confusion. It became his definite object, therefore, to take the matter of slavery in hand before it should have time to assume the proportions of a grave political question. With this end in view, he outlined, with the assent of the Council of State, a plan by which the extinction of slavery would become a guaranteed fact, and which would, nevertheless, not meet with violent resistance on the part of the Conservatives.

This plan was destined to be put into effect by the Princess Imperial when she served as Regent for the first time, during the absence of the Emperor in Europe.

Her prime minister was the Viscount of Rio Branco, father of the Baron of Rio Branco, who gained world-wide fame for his management of the boundary questions of Brazil.



THE PALACE OF SÃO CRISTOVÃO.

Birthplace of the Princess Imperial, now the National Museum.

Rio Branco introduced a bill in Parliament for the emancipation of the children of all slave mothers. The passage of this bill meant that no more slaves could be born in Brazil. It passed rapidly through the three requisite readings in each house, and the Regent signed it without delay, on the 28th of September, 1871.

That the passage of this law was not contrary to the wishes of the majority of the landowners and the people at large is attested by the fact that the popularity of the Empire and the dynasty does not seem to have suffered thereby.

During the period extending from the 26th of March, 1876, to the 25th of September, 1878, Dona Isabel was, a second time, called to the regency in the absence of the Emperor during his visit to the United States, where he had come to attend the Centennial Exhibition of Philadelphia in commemoration of the Independence of this country. This second regency, like the first, was noted for the large volume of important and progressive legislation which it produced.

Ten years later, in 1888, Dona Isabel was at the head of public affairs for the third time. Now the scene was all changed. How different from the halcyon days of seventy-one, or even the stirring but hopeful times of 10 years ago. Her father was away in Europe, whither he had gone in search of relief for a serious physical malady. Instead of the old-time serenity and the safety of party boundaries there was now confusion in the constitutional ranks. During those years the abolitionists had grown in numbers and in the vigor of their activities, and the Republican Party had come into existence.

In this emergency whom would the Regent call to her side? Had Dom Pedro been at the head of affairs we can divine that he would have sought his friends among the ultraconservatives of the Conservative Party. It appeared to matter little to Dona Isabel what were the party affiliations of her ministers provided they were abolitionists. João Alfredo was her Prime Minister, a Conservative leader who had adopted the abolitionist banner. And yet the purely monarchical elements of both constitutional parties stood ready to join hands in the support of the Regent and the dynasty.

It seems to me that in those grave moments Dona Isabel had the clear perception of the transcendence of her mission, and the profound realization of a joy that no glittering crown could give, when she determined that the hand which had signed the first decree of emancipation should complete its task and leave no slaves in Brazil. A minister remonstrated, "Your Highness, reflect that you are about to endanger the throne." "Be it so," she replied, "even though the throne should fall, I desire the passage of this law."

The bill was very short, the shortest, I believe, of which there is any record in the annals of the Brazilian Parliament: "Slavery is abol-



GUANABARA PALACE.

Private residence of Dona Isabel, now the official residence of the President of the Republic.

ished in Brazil. All dispositions to the contrary are hereby revoked."

The Princess signed the bill the very instant in which it was presented to her, on the 13th of May, 1888. The new law was accepted everywhere without a murmur. Public and private rejoicings took place in every city and town throughout the Empire, and for a time it appeared that the direct intervention of the throne in a political question of such radical import would not lead to any untoward results. But the prophecy of the minister was destined to be fulfilled. The standard monarchical parties were seen crumbling at the edges and corners, while the disintegrated elements began to group themselves about the nascent Republican nucleus. The Regent had with her own hand knocked down the pillars of her throne, and it was about to fall.

Strange to say, or rather, naturally, if we reflect on the law of cause and effect, the old Conservative Party, the bulwark of the monarchy, was the first to show signs of deterioration with the desertion of whole phalanxes of its members who went over to the Republican camp. The last staunch defenders of the Empire and the Braganças were the Liberals, who were historically democratic to the point of being looked upon as half-way Republicans.

About a year and six months after the decree of abolition, the Empire came to an end. Dom Pedro Segundo had returned; but his journey had not afforded him any appreciable improvement in health. But his home coming had been the occasion of a monster demonstration of loyalty and affection. A veritable fever of loyalty appeared to have seized the populace. But it was the last upward spurt of the flame of the candle about to expire. The expressions of loyalty on the part of the manifesters were as sincere as they were enthusiastic, but they had no deep roots in any settled policy. These deep roots lay elsewhere, in the councils of the Republican leaders, who did not swerve from the line of action which they had set out to follow.

The aged Emperor was in no fit condition, physically, to cope with the difficulties which beset him on all sides. The Viscount of Ouro Preto was at the helm as President of the Council, or Prime Minister. Ouro Preto was an uncommonly brilliant statesman, and possessed a very powerful personality. He was well calculated to guide the ship of state in deep waters, however stormy; but there is reason to think that he was of too impulsive and hasty a nature to be a safe pilot over the breakers of a threatened revolution.

A number of army leaders were known to be in sympathy with the Republicans. The Government attempted to scatter them through commissions to the remote Provinces. The measure only served to exasperate the army and add violence to the Republican agitation.

A plan was formed under the leadership of Gen. Benjamin Constant, an exponent of the positivistic school of philosophy, and president of the Military School, for the overthrow of the monarchy and the establishment of a Republic in its stead.

The catastrophe was imminent, and yet the great body of the populace, convinced through they were that the days of the Empire were numbered, had not the least idea that the end was to be so soon, and with so little warning. A like feeling of false security existed in the ranks of the supporters of the throne. All felt that possibly, some day, the Empire would be succeeded by a Republic, but no one had the least conception that the end was at hand.

A few days before the revolution, I remember seeing for the last time the grand old Emperor Dom Pedro Segundo at the college which he founded and which bears his name, where he had gone to preside over a competitive examination for a professorship. Although not what one would be inclined to call an old man—he was not quite 64—his hair and beard were completely white, less with age than from the incessant cares which had weighed upon this imperial-democratic nation builder during the greater part of a reign of 59 years. But there was no change in the dignity of his demeanor, no sign in his look or his features of any concern for the future of the institutions of which he was the symbol. Nothing about him was different from the calm and unassuming assertion of majesty that characterized him on all state occasions. Did he know, did he believe in the proximity of the catastrophe? If he did, what an example of serenity and kingly dominion.

The revolution declared itself in the early morning hours of the 15th of November, 1889. The imperial family were at their summer residence in the neighboring town of Petropolis, where the Emperor's illness had taken a turn for the worse. His physician refused to allow the news to be communicated to him. The Empress, the Princess and her husband the Prince Consort, could but concur in the doctor's decision, and so the crucial moments of the passing of the Empire lapsed unknown to the man whose mighty spirit had made it the instrument of the political and social organization of his country. Let us picture to ourselves what must have been the feelings of the assembled family, and particularly of the Princess.

Many friends and supporters of the régime thought that if Dom Pedro did but show himself on horseback in the streets of Rio before the revolution had time to settle, the populace would rise and crush the revolt. Whether this would have been the result it is hard to say. Probably there would have been resistance and bloodshed, possibly civil war. On the other hand, it is not certain that Dom Pedro Segundo, even had he been in the enjoyment of health and

strength, would have so acted at all. In fact, in the light of the policy of his whole reign, I do not believe he would have wished to retain the scepter at the cost of the blood of his countrymen. It is entirely probable that the Princess would have concurred in the same sentiments, a supposition which is confirmed by her conduct during the 32 years of her banishment. The tragedy of the dethronement and expulsion came upon her like a thunderbolt. It filled her with anger and indignation, but there was nothing in this anger, nothing in its expression, which might indicate that she would have it otherwise at the expense of a reaction. "Senhor Mallet," she exclaimed to the general who brought her the pleasure of the new Government. "You gentlemen are certain to rue the step you are taking." But these were the last words of impatience which she was known to utter with reference to the events of which she and her house were the central figures and victims.

The family were brought down as prisoners from Petropolis and lodged in the Imperial Palace near the waterfront of Pharoux. From there they were taken, in the small hours of the morning, on board the steamer that was to bear them away into exile. The Empress died shortly after their arrival in Lisbon; Dom Pedro a little later, in Paris. It was his peculiar good fortune that his fame suffered no ultimate loss even though he had been dethroned and expelled from the country which he had ruled. During the first years of the Republic, as was natural, it became the fashion to be silent with reference to those who had been great in the fallen régime. But as the new institutions gradually settled, and the Republic entered into the unchallenged possession of its inheritance, natural affection, gratitude, and all the like kindlier feelings regained possession of the Nation's heart with regard to those dead and absent rulers who had loved Brazil so well.

During last year the National Congress passed a law repealing the decree of banishment and providing for the return of the remains of Dom Pedro, the Empress Dona Thereza Christina, and other members of the family.

Dona Isabel received the news with a deep sense of pleasure, but not with the joyous enthusiasm with which she would have hailed the glad tidings had they arrived a little sooner. The long, long years of her exile had been cheered with the ardent hope that some day she might be permitted to revisit the land of her birth. By the irony of destiny, however, the long looked for hour arrived too late. The burden of her years and sorrow for the death of her two sons in rapid succession, one of whom fell in the cause of the Allies in the World War, had broken her health and strength to the point that she felt entirely unequal to the fatigue of the journey. So it devolved upon

her husband, Prince Gaston d'Orléans, and their remaining son, Dom Pedro, to accompany the remains of the Emperor and Empress back to their beloved Brazil.

Their reception was at once expressive of respect for the bearers of a sacred charge and the pleasure of welcoming home long absent and honored friends and countrymen. But the pleasure was dampened by the absence of the beloved lady upon whom the people had long since bestowed the affectionate appellation of Isabel the Redeemer.

A Brazilian writer recording her death, observes that the absent never grow old. This being so, it is perhaps best that the image of the fair-haired Dona Isabel, as it lives in the memory of her contemporaries should suffer no change, and that instead of the weak, infirm old lady, bowed under the weight of disaster and sorrow, the picture that is to survive from tradition in the hearts of future generations be that of the august Princess Isabel, in the splendor of her youth and the plenitude of her imperial power.

By virtue of a presidential decree she was accorded funeral honors due to the head of the Nation. Like tributes were offered to her memory by the two houses of the National Congress, by the various State governments, and by innumerable civic bodies throughout the length and breadth of the Republic. But among all the expressions of homage that have been lavished upon the departed Princess there is none which, could she be cognizant of them, would please her so much as the enduring affection in which she is held in the hearts of her countrymen.



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SECTION OF EDUCATION OF THE PAN AMERICAN UNION

REPORT SUBMITTED TO THE GOVERNING BOARD OF THE PAN AMERICAN UNION AT THE MEETING OF JANUARY 4, 1922, BY FRANCISCO J. YANES, ASSISTANT DIRECTOR, IN CHARGE OF THE SECTION.

During the year that has passed since I had the honor to submit the last report on the Section of Education in my charge, this important division of the Pan American Union has unceasingly devoted its energies to the work which it was created to perform.

If the labors of the section have not met with all the success that was anticipated, in view of the interest shown in the correspondence it has received, it has been due mainly to the economic conditions under which the whole American continent has been and still is laboring. This abnormal situation has prevented students of moderate or very limited income, who are the ones that most frequently call upon the section, from making the journey to the United States; and those who by dint of sacrifices might have done this would have found themselves financially so straitened here that they have not dared to venture on making the trip.

As typical, there may be cited the case of six teachers sent by their Government, whom the Section of Education, after extensive correspondence, was able to place advantageously in the summer school of one of the American universities. They came all the way to New York, and were then obliged to return home for financial reasons, abandoning their plan, and not without some inconvenience to the institution that was expecting them. When the circumstances were explained, however, the university understood the situation and renewed its offer for the following year.

During the year just closed the Section of Education was consulted by 114 students (105 men and 9 women), as follows: from Argentina 21, Bolivia 6, Brazil 10, Chile 4, Colombia 9, Costa Rica 1, Cuba 12, Dominican Republic 2, Ecuador 2, Guatemala 3, Honduras 2, Mexico 7, Panama 2, Peru 11, Salvador 2, Uruguay 2, Venezuela 4. There were also 3 inquirers from Porto Rico, 2 from Spain, and 9 who did not state their nationality. By branches of study, they were classified as follows: Engineering 29, commerce 17, medicine 14, pedagogy 14.

secondary education 12, dentistry 2, natural sciences 2, liberal arts 2, agriculture 1, pharmacy 1, school for defectives 1, and 19 general inquiries. Of these 114 students, 15 were offered free tuition; a third of the remainder requested financial assistance of some sort.

It is a pleasure to state that in most cases, when the applicants have the necessary preparation, there is no serious difficulty in securing their entrance. The section arranged for the admission of 8 new students to various institutions of this country, 3 of whom receive free tuition; exemption from tuition fees was also obtained for 11 students already in American universities, whose work had been satisfactory; letters of introduction and recommendation were furnished to 3 teachers who were making a trip of study and observation; 16 cases were still pending at the end of the period. Eleven students for whose admission the Section of Education had carried on more or less extensive negotiations were obliged to withdraw, most of them for financial reasons. Inquiries were received from 65 students who did not meet requirements.

In addition to the students just mentioned, 21 teachers (15 men and 6 women) applied for positions in this country, 11 of whom wished to carry on studies while teaching. Places were found for six of these, and a position was offered to another who was unable to come to the United States.

These figures may seem very small, and indeed are, in comparison with the total number of Hispanic-American students in this country. These students may be divided into three classes: those who come on the recommendation of personal friends, the Young Men's Christian Association or other organizations in close touch with students; those who receive allowances from the Latin-American Governments; and those who come at a venture, and either through the aid of fellow-countrymen here, or by the kindly assistance of the Young Men's Christian Association's Committee on Friendly Relations Among Foreign Students, the Institute of International Education in New York, etc., are enabled to enter some institution. Many of these, however, lose time unnecessarily. The greater part of the students are unaware of the services offered by the Section of Education; others do not think it necessary to apply to the section because they are planning to attend some special institution about which they have heard from friends. Those who are guided by the advice of persons intimately acquainted with American educational institutions are in fact generally not in need of the services that the section can render. It could, however, be of great assistance to many of the government students and those who come without any settled plans, and it is worthy of note that many young Latin-Americans who have come to the United States to study, becoming

convinced that their own efforts are not sufficient, apply to the Section of Education for advice or for assistance in arranging their admission to some educational institution.

During the year 14 students of the United States (10 men and 4 women) wrote to the Section of Education for information regarding subjects that they might profitably study in Latin America. Of these, two wished to go for the purpose of studying commerce; four were interested in a possible exchange of students between schools of this and the other countries, and five were instructors who desired to fit themselves better for the teaching of Spanish, etc., by visiting some of the countries south of the United States. Two women teachers did make trips, provided with letters of introduction from the Section of Education; one took a course at the National University of Mexico, and the other traveled to South America, perfecting her knowledge of Spanish while visiting the principal educational centers at the capital cities.

Applications were received from 46 American teachers (15 men and 31 women) who wished to secure positions in Latin American schools or universities. It should also be stated that letters were received from 56 other teachers who either lacked the necessary qualifications or were not sufficiently interested to make out formal applications. Of the applicants referred to above, 23 were recommended by the Section of Education to various Hispanic-American countries, and two are known to have obtained places, one in Peru and the other in Porto Rico.

During the year the section received 1,209 letters, an increase of 34 per cent over the previous year; it sent out 1,367 communications, or 28 per cent more than the year before; and in addition 1,700 circular letters. A detailed index is kept of all inquiries received and answered, a record of the experience and qualifications of teachers desiring to go to Latin America, certificates of the studies pursued by Latin-American students, and, in short, all information needed to answer the inquiries received and make appropriate recommendations.

At the request of the Colombian Legation in Washington, the section entered into negotiations to secure a kindergarten teacher who could speak Spanish to go to Cartagena. The names of various competent persons were furnished, but the negotiations had to be broken off for financial reasons. The University of Guatemala requested the section to obtain for it the general regulations governing universities in the United States and Latin America, and these were secured by addressing the institutions referred to. The section also procured for Guatemala various publications of the United States Bureau of Education relative to the teaching of hygiene in the schools, and at the present time is engaged in obtaining for the

School of Medicine and Surgery of Guatemala data relative to modern types of buildings which will be of assistance in the reconstruction of that school. For the Mexican Department of Agriculture the section secured information regarding agricultural schools in the United States; and the director of the National Commercial School of Peru was furnished certain data requested by him concerning commercial education in Latin America.

The work of propaganda carried on by the Section of Education may be summed up as follows:

In the BULLETIN of the Pan American Union an offer was published, and was reproduced in several South American papers, placing the services of the Section of Education at the disposal of educational officials and of parents, in meeting young students on their arrival, if duly informed in advance, and assisting them to reach their destination; obtaining reports direct from the school authorities relative to the student's work, progress, etc., and taking charge of his funds whenever possible.

Articles were published in the BULLETIN on agricultural and engineering instruction in the United States; these also have been reprinted.

A committee of teachers was organized in Habana, in accordance with a plan drawn up by the Section of Education, to serve as a clearing house for teachers and students desirous of coming to the United States. This plan has worked so well that the Section of Education would like to see a committee of this kind established in each of the capital cities, at least, of Latin America.

To the departments of education of the various states of the American Union and of some cities, the Section of Education offered its services in securing teachers of Spanish from among those who have applied to the section for positions.

A circular was addressed to the colleges and universities of the United States urging the employment of competent Latin American students as assistants to the Spanish professors. Six are known to have been engaged in this capacity.

Publicity has been given, both in the BULLETIN and through correspondence, to the summer courses for teachers offered by Mexico, and several American teachers were recommended to a private school in that country, in response to the request made of the section by the director of the school.

The section has not neglected to encourage the study of Spanish, Portuguese, and the history and geography of the Latin-American countries in the educational institutions of this country, furnishing pamphlets and periodicals in these languages to those who have requested them, as well as information and advice to teachers who have asked the help of the section.

Two papers on phases of education in Latin America have been prepared, one for the Foreign Relations Committee of the National Education Association and the other for the National Association of State Universities.

The United States Bureau of Education has continued to lend its hearty cooperation to the work of the Section of Education, furnishing information that has been requested from time to time; a cordial spirit of helpfulness toward the work of the section has likewise been shown not only by the organizations already mentioned, but also by the American Association of University Professors, which offered the Section space in its journal, and the American Council on Education, which appointed the head of the Educational Section as a member of its Committee on Latin-American Credentials.

In response to the request of the Central American Student Federation at Guatemala, which planned to hold a Pan American congress of university students in the month of September, as a result of the efforts of the Section of Education Georgetown University sent two representatives, students from the University's School of Foreign Service being selected. On their return to Washington they expressed themselves as greatly pleased at the attentions they received.

The section has rendered services to the Mexican-American Scholarship Foundation, which, as its name indicates, devotes itself to encouraging the interchange of students and professors between the United States and Mexico. The Director General of the Pan American Union was appointed honorary president of the foundation and the writer a member of the committee for the United States.

It has likewise cooperated with the Pan American Student League organized in New York, in the development of its plan for holding a Pan American Congress of Students about the middle of 1922, probably in Washington.

Believing that the summer courses abroad that have been established by such educational organizations as the American Association of Teachers of Spanish are of unquestioned importance in cultivating closer relations between the educational and cultural elements of the different American republics, the Section of Education lent its aid to the trip to Venezuela made by a group of Spanish teachers in July and August, and the visit made by several others to Mexico. The section desires to cooperate toward establishing a steady current of teachers and students from all the countries of America, either during the school vacations or at any other time, and will gladly do anything in its power to assist in carrying out such excursions.

During the coming year, the Section of Education plans to prepare and send to all the press of Latin America a series of articles on education in the United States, the different branches of study, admission requirements, etc., hoping that they will receive wide pub-

licity. It will likewise supply to United States periodicals and journals that give attention to progress and events in the professional and student world, monographs on education in Latin America, studies that may be pursued there, etc., in order to popularize a knowledge of this subject, so important in the cultural life of peoples, and to enable those who desire to complete their education in another country to properly prepare for it.

The interchange of students and professors is a subject that claims much of the attention of the Educational Section, which would be glad to serve as a central office for the movement as soon as concerted plans can be worked out for its development.

The section also desires to act as an agency for promoting the exchange of publications between educational institutions of Latin America and the United States, in order to disseminate a better knowledge of the progress made by the nations of America in the various phases of the educational field.

It is also anxious to have committees of teachers, either of an official character or otherwise, organized in each of the capitals and principal cities of Latin America, to serve as intermediaries between the students and teachers that may wish to come to the United States, on the one hand, and on the other the Educational Section, which would supply these committees with all needed information. In Habana, as has already been stated, there is now such a committee, appointed by Dr. Ramiro Guerra, professor of pedagogy at the Normal School for Men, in cooperation with the Section of Education, which submitted a tentative scheme of organization for the committee.

In carrying out all these plans the Section of Education is counting on the cooperation of the members of the governing board and the personal efforts of the Director General of the Pan American Union, whose special interest in educational matters, advice, and practical knowledge of the subject have given a decided impulse to the Section during the past year.

The detailed part of the work is still handled by Miss Helen L. Brainerd, who, in addition to her other duties, devotes time and thought to the success of the labors of the Educational Section.



BALTIMORE, IN THE PAN AMERICAN CONFERENCE

PLANS are well under way for the Pan American Conference of Women called by the National League of Women Voters for April, 1922, in connection with the league's third annual convention, with the idea that such a conference will have a definite helpful effect upon inter-American friendliness.

Secretary of State Hughes, who is in close sympathy with the project, will be the principal speaker at a mass meeting which is to be held in Washington, April 28, and which has been designated in the conference program as "Washington Day."

Secretary Hughes, who breaks a precedent established when he became Secretary of State in accepting the invitation extended to him by Mrs. Maud Wood Park, president of the National League of Women Voters, to speak at this conference, says in his letter of acceptance:

The effort to assemble representative women of North and South America in a Pan American women's conference is of special interest to all who desire to promote a better understanding between the American Republics. In many Latin American countries, as in the United States, women are taking an increasingly large part in the study and solution of the social problems which will be discussed at your meeting, and an interchange of views in regard to these problems can not but be helpful to all. I feel confident that your conference will again demonstrate the spirit of Pan American cooperation which has made successful such gatherings as the Pan American Scientific and Financial Conferences. You have my best wishes for the success of your undertaking.

The National League of Women Voters has received, with gratification, messages from the South and Central American Republics, expressing interest in the conference. Among the eminent Latin American women who have expressed their desire to attend the conference are Miss Bertha Lutz, of Brazil; Dr. Alicia Moreau, of Argentina; and Señora Amalia Mallen de Ostolaza, of Cuba. Acceptances of the official invitations are beginning to come to the league, and the names of the official delegates will soon be announced. The Dominican Republic has already announced that its official representative will be Miss Ana Teresa Pelidas. Miss Pelidas is the first woman to qualify as a practicing lawyer in the Dominican Republic.

The National League of Women Voters is an organization having for its purpose the training of women to play an intelligent part as citizens of the United States. It exists in order that the women of



Photograph by Jas. F. Hughes Co.

MOUNT ROYAL AVENUE, ONE OF THE RESIDENTIAL STREETS OF BALTIMORE.

Monument to the soldiers and sailors of Maryland who gave their services to the Confederate States in the Civil War.

the Nation may have an opportunity to come together for the discussion of public problems in their bearing upon the welfare of women and children, and that they may study the legislative programs with a view to working for improved legislation and the upholding of efficient government. It is not a separate political party in any sense of the word, for the league believes that men and women have a common stake in civilization, a common interest in good government, and that only through the cooperation of men and women can the best results be obtained.

Branches of the National League of Women Voters are organized in each of the 48 States. The general annual convention is held, in accordance with the invitation of the State leagues, in a different State each year, that of 1922 having been extended by the Maryland League of Women Voters, under the leadership of Mrs. Charles E. Ellicott.

Baltimore, in which the Pan American Conference of Women and the third annual Convention of the National League of Women Voters will be held, has for 200 years been famous for its hospitality. Plans for the entertainment of the distinguished guests and visitors have been made on a scale to maintain these traditions.

The site of old Baltimore was selected by Benedict Leonard Calvert, one of the early governors of Maryland. Its location, at the head of Chesapeake Bay, was particularly advantageous, as the need of a port was keenly felt by the growing Province of Maryland.

Much of the romance of the old South clings to the older and quainter sections of the city, distinguished by the famous white marble steps and colonial doorways that are the delight of visiting artists. On the site of the Cathedral, blessed for so many years by the presence of the best loved of American prelates, James Cardinal Gibbons, once camped the soldiers of General Washington. To-day, from the heights of Charles Street, the first statue ever erected to Washington looks down on this spot. At the foot of Charles Street, overlooking the harbor, are the stocks where offenders against the Maryland Blue Laws were once placed to meditate on their sins.

In recent years, the advent of the motor car has made it possible for Baltimoreans to enjoy the spacious grounds of a country home and at the same time conveniently reach the city. The suburban development has extended into the Green Spring Valley, out on the Rolling Road and Old York Post Road of colonial days. It is in these homes that the delegates to the conference will be entertained. A series of dinners and receptions in the historic homes of the city and vicinity has been arranged. April is a particularly lovely month in Maryland, and trips over the perfect roads of the State by motor have been planned.

In Baltimore, the Walters Art Gallery will be opened, and special trips to the Johns Hopkins Hospital and Fort McHenry will be arranged. It was the flag flying from Fort McHenry that inspired Francis Scott Key to write the *Star Spangled Banner*, the national anthem of the United States.

The Maryland League of Women Voters is one of the youngest of the State leagues. It was organized in 1920, after the ratification of the nineteenth amendment to the Federal Constitution giving women the right of suffrage. Its work, so far, has been chiefly educational. Classes in the science of being a good citizen have been held in every part of the State. These lectures have dealt with the practical problems of the State and local governments and have been designed to give the women citizens a clearer understanding of the value of the newly acquired ballot, and of the practical service they may render through its use to State and country.

The general assembly of the State, in its bi-yearly session, will take place this year. A program of legislation has been prepared by the league and presented to the assembly for its consideration. This program includes such subjects as a State department of child hygiene, a children's code commission, mothers' pensions, and laws for the equal guardianship of children and for the protection of both boys and girls to the age of 18. Other worth-while achievements of the league include an industrial survey of the State dealing with health problems in the factories and industries employing women, which it is hoped will be the basis of legislation for the better protection of the health of the women of the State.

Public work is a new adventure for the women of Maryland, and they are feeling their way slowly, but already with creditable results. They are eager to meet their Pan American sisters and to hear what has been done in the Latin American Republics in the cause of child welfare and other movements in which women take a special interest.

The 10 days of the conference will be so planned that the visitors may see as much as possible of the city and the surrounding country. The governor of Maryland, the mayor of Baltimore, business and professional men, and the commercial organizations, are cooperating with the league that it may be a complete success.



THE HOME OF "MARIA,"

HEROINE OF SOUTH AMERICA'S GREATEST NOVEL.

By WILSON POPENOE,

Agricultural Explorer for the United States Department of Agriculture.

IT IS generally conceded that "Maria," by Jorge Isaacs, is one of the greatest novels yet produced in Latin America. This distinction is due not more to the fact that it is a poignantly sweet story of romantic love, done by a master hand, than to the delightful descriptions which it contains of life in the Cauca Valley of Colombia about the middle of the last century. The vivid descriptions of Cauca scenery, of the simple pleasures of the countryfolk, and of the daily routine of a Colombian farm, offer abundant proof of the literary genius of one of South America's greatest novelists.

To me, the story loses much of its charm when translated into English. Perhaps it is because our language does not lend itself so well as does the Spanish to the fine portrayal of romantic feeling; perhaps it is because the work gains much of its unique flavor from the abundant use of Cauca colloquialisms which do not permit of faithful translation.

If I am correct in believing that the English version is greatly inferior to the original Spanish in literary merit, it is easy to understand why the book has not become as popular in North America as it is throughout the Spanish-speaking portions of our hemisphere. When the visitor to Colombia, Ecuador, Peru, or any one of a dozen other Latin American Republics falls to discussing literature with his newly-made Latin acquaintances, some one is almost certain to inquire, "Have you read 'Maria'?" Up to the present, I have failed to encounter a single educated Latin American who has not done so, and it seems to be the general custom to read it during early youth—the most impressionable period of one's life. The tragic ending of the story, as well as the tensely dramatic scenes of one or two of the earlier chapters, stir the emotions to their very depths and leave imperishable memories.

The principal characters are two: Efraim (who is none other than the author himself) and his cousin, Maria. Efraim's father was an English Jew, who came to the Cauca Valley from Jamaica, after having married the daughter of a Spanish sea captain and embraced the Christian religion. Maria was the daughter of Efraim's uncle,

Solomon, and had been left an orphan while still a baby. It had been one of Solomon's last requests that his brother should take the child and bring her up as a member of his own family.

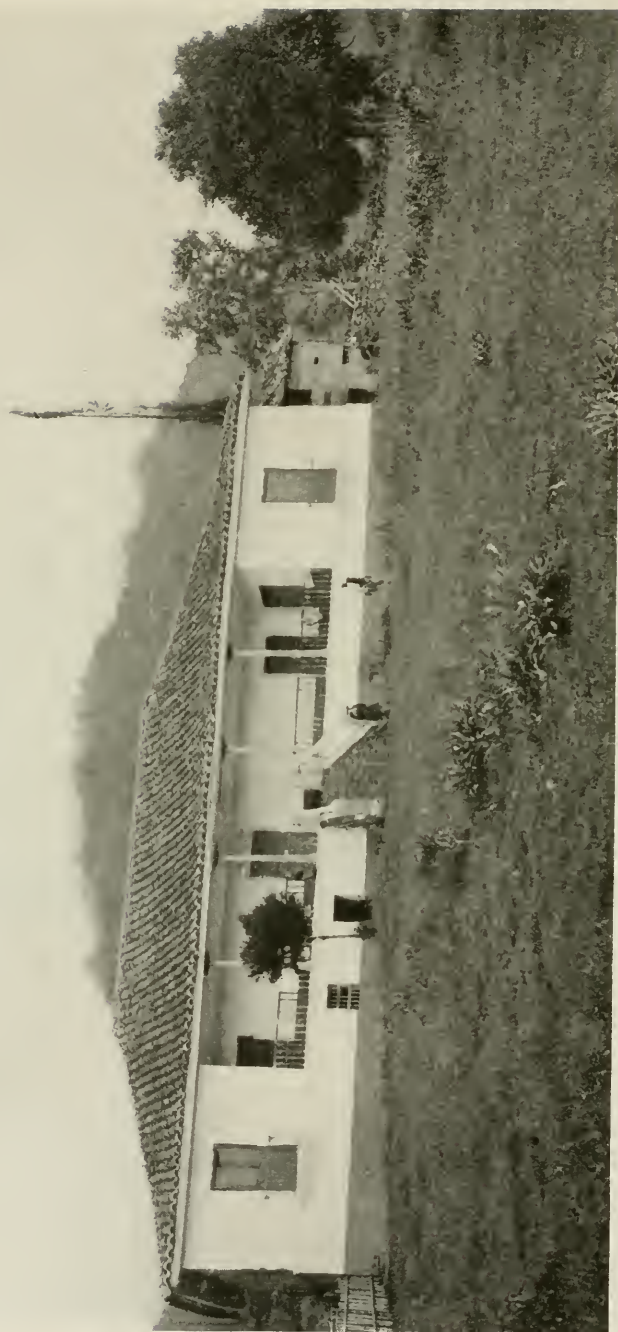
Efraim and his cousin Maria were thus thrown together during childhood days upon the farm in the Cauca Valley, which was later the scene of the most tragic portion of the romance. While still a child, Efraim is sent away to school in Bogotá, where he remains six years. When he returns he has reached young manhood, and Maria is in the full bloom of early youth. Efraim finds himself in love with his cousin, and the ensuing months are the most happy and idyllic of his life.



LOOKING ACROSS THE CAUCA VALLEY FROM MARIA'S HOME.

"Upon the western mountains, clear and blue, lay the yellow churches of Cali, and at the foot of the slopes the villages of Yumbo and Vijes shown white, like huge flocks of sheep." (*Maria*, Chapter LIII.)

A cloud, however, hangs upon the horizon. The family desires that Efraim go to London to complete his education, and the dreadful thought of separation constantly disturbs both himself and Maria. Very shortly Maria suffers an attack of the hereditary disease which caused the death of her mother. The physician called from Cali to attend her prophesies at first that she will die from the complaint within a few years, and Efraim's despair is complete. Later, however, the girl's condition improves so markedly that Dr. Mayn retracts his prophecy. Efraim again sees his way clear to marry his adored cousin, but still lives under the terror of two years of



THE "HACIENDA DE LA SIERRA," AROUND WHICH CENTERS THE PLOT OF JORGE ISAACS' NOVEL, "MARIA."

"The *casa paterna*, amidst its green hills, shaded by aged willows, surrounded with rose trees, and illumined by the rising sun, presented itself to my imagination," writes Efraim, hero of the tale, when far from home. In recent years the garden has been abandoned and the house is falling into decay; but the natural beauty of the surroundings, and Jorge Isaacs' description of the manner in which the property had been improved by his father, prove that it must have been, in the days of Maria, an idyllic spot.

separation if he goes to Europe. Shortly his father receives news that he has lost his fortune; Efraim seizes the opportunity to insist that the family give up the idea of spending a large sum upon his education and urges his father to let him stay in the Cauca and assist in managing the farm. In this he is, of course, impelled more by his desire to remain by the side of Maria than by filial duty. The father, however, is obdurate, and the two lovers count the hours as the fateful day of separation approaches.

The most powerful scene of the novel is probably that in which Efraim takes leave of Maria, and starts upon his long journey to England. He rises after a sleepless night, and is met at the door by the faithful Juan Angel, his negro servant, who brings his spurs and zamarros (the picturesque garment, equivalent to the *chaparajos* of our own Southwest, which is worn by Colombian horsemen). Donning these, he steps into the *sala* or parlor, which he finds unoccupied. He enters the next room and meets his mother and his sister Emma. Both of them throw themselves upon his breast and, sobbing, bid him Godspeed. Emma, divining his thoughts, motions toward the oratorio (small chapel) within which Maria is awaiting him. He pushes open the door. The young girl who means more to him than life itself is kneeling before a picture of the Virgin, in front of which two candles are burning. Realizing his presence, she utters a faint cry and, without raising her head, gives him her hand. Falling to his knees, he covers it with kisses. As he rises to his feet again, Maria, fearful that he is already going to tear himself away, springs up and throws her arms about his neck. Her hair streaming over her shoulders, and her face buried in his breast, she lifts one hand and points to the altar. Emma, who enters the chapel at this moment, takes the almost unconscious girl from Efraim's arms, and motions to him that he should leave. He obeys.

During his first year in London, he receives letters from Maria regularly by every mail. After this, they gradually become less frequent, until finally, a friend of the family comes to him and breaks the news of Maria's failing health. All other remedies having failed, it is recommended by the doctor that Efraim return at once, in the hope that his presence may yet rescue her from the tomb. He starts immediately upon the long voyage to Colombia. He lands at the port of Buenaventura, whence it is but a few days by canoe and mule to his beloved Cauca Valley and Maria. He pushes ahead frantically, and finally reaches Cali, where he is told the family is awaiting him. He enters the house, and is met by Emma, dressed in mourning. He realizes instantly the import of this, and falls senseless upon a couch.

Weeks later, he visits the scene of the happiest days of his life—the old home at the foot of the central cordillera of the Andes, 20

miles from Cali. Here he opens the cedar chest which belonged to Maria, and gazes lovingly upon the little keepsakes which she has left for him. The story closes with a visit to the newly made grave in the cemetery at Cali.

Such, in brief, is the plot of this novel. Its tragic ending stamps it as quite different from the vast majority of romances which have been published during the past century. The Cauca Valley, scene if the principal action, is one of the most beautiful regions in America; on fact, it comes nearer to fulfilling my ideal of a tropical paradise than any other spot I have ever seen. When one has gazed upon



ENTRANCE TO THE ORATORIO.

The door at the end of the *corredor* leads into the *oratorio* or chapel, where Efraim took leave of Maria for the last time.

its glorious landscapes, and basked in the shade of bamboo beside one of its crystal-clear streams of cool water, he realizes that it is only natural that a literary genius like Jorge Isaacs, with the inspiration of such surroundings, should write a novel which would become the classic of Latin America.

To those familiar with the history of "Maria," it is well known that a large part of the story is true. Efraim's account of his early life on the old farm at the foot of the central cordillera, together with the coming of his infant cousin, Maria, to live with the family and become a part of it is, I am assured by those who live in the Cauca and are conversant with the matter, based upon fact. The later portions of the work, including Efraim's race with death from Lon-

don to the Cauca, only to find upon reaching Cali that Maria had died two weeks previously—all this part of the work, I am told (and I must confess that I derive much consolation from the knowledge) is fiction.

Many of the scenes portrayed in the book can be visited to-day, and will be recognized instantly by one who has read his "Maria" carefully. As the visitor to the Cauca crosses the western range of the Andes on the train from Buenaventura to Cali, his fellow passengers are certain to point out to him, upon the farther slope of the



ENTRANCE TO THE "HACIENDA DE ABAJO."

"The white gateway which, at 70 yards from the house, gave entrance to the patio." (*Maria*, Chapter XXXIII.)

valley at the immediate foot of the central cordillera, a white speck, barely visible at this distance. This is "El Paraiso," the home of Jorge Isaacs, and the "Hacienda de la sierra" of the story. Below it is the superb Cauca flowing in a series of wide curves through a valley 10 to 15 miles in width whose level floor is a huge pasture.



MARIA'S BATH.

In one of her last letters to Efraim, Maria writes: "I had Emma take me into the garden; I stopped at those places which we loved the most and, seated upon the stone bench at the edge of the stream, surrounded by the flowers, I felt myself almost well again." Maria is gone, and the garden is abandoned; but the limpid waters of the brook flow ceaselessly by on their way to join the mighty Cauca, and devoted sons of the valley keep green the memory of one of the sweetest characters every portrayed by the hand of man.

in which the cattle are sometimes hidden from sight, so lush is the growth of Para-grass on this fertile soil. Along the river is a fringe of *cachimbo* trees, whose shade protects the delicate cacao plants cultivated beneath them; in October and November these trees are gorgeous with their orange-scarlet flowers, and add a delightful touch of color to the scene.

In 1920 I had the good fortune to pass a week at the Hacienda "La Manuelita," as the guest of Mr. and Mrs. Charles Eder. This was formerly the "hacienda de abajo" (lower hacienda) of the Isaacs family, and is mentioned several times in the story of Maria. It is one of the prettiest spots in the Cauca, and coincides in every respect with the descriptions of it in the book, even to the "white gateway which at seventy yards from the house, gave entrance to the patio."

In company with Doris Eder, I visited the "hacienda de la sierra," altogether the most idyllic spot I have ever seen. Above the front door has been placed, in recent years, the inscription "Aquí cantó y lloró Jorge Isaacs" (Here sang and wept George Isaacs). The various rooms described in the story, and all of the surroundings, are recognizable immediately; the place is, however, rapidly falling into a state of lamentable decay. The inhabitants of Cali talk of erecting a monument to Jorge Isaacs; what tribute could be more fitting than the preservation of his home, in the precise condition described in the pages of his immortal novel?

On the fly leaf of my "Maria," I find the following note, written on the day I visited "El Paraíso":

Azucenas still bloom in the abandoned garden, but the roses are gone, the house practically abandoned, and the patio grown up to weeds. But the natural setting could not be more beautiful—the Cauca Valley spread out below, with the western cordillera in the hazy distance, the forest-covered mountains rising immediately to the rear, and, a hundred feet to the south, a rushing, crystal-clear brook on its way to join the Cauca River.

He who walks in the abandoned garden can gather flowers of the *azucena de la montana* (wild lily), perhaps from the descendants of the very plants which Maria so tenderly cared for during Efraim's exile in London and whose petals she was wont to send him in every letter. To one of botanical leanings it is of interest to know that this *azucena* is a species of *Crinum*.

Close by the house, at the farther side of the garden, is the tiny pool known to people of the Cauca as "Maria's bath." In very recent years a small bathhouse has been erected beside it. Upon the limpid waters of the pool Maria was wont to scatter rose petals on those days when Efraim, returning from the forest or from a long ride across the valley, refreshed himself with a plunge.

To one who has read the story, all of these scenes are filled with sad romance, and hallowed with the memories of one of the sweetest characters ever portrayed by the hand of man.

BRITISH HONDURAS

By A. D. CARR.

BRITISH HONDURAS has been described as a fringe of swamp with a mahogany forest in the interior. This is rather misleading and apparently the opinion of a man talking from hearsay only. While no one can deny that these two features are both very prominent in the topography of the country, they by no means constitute the whole. Indeed this little out-of-the-



MAP OF CENTRAL AMERICA, SHOWING THE SITUATION OF BRITISH HONDURAS.

way colony is fortunate in possessing a large variety of scenery and varying types of country. Before going further, let us clearly understand its position. The mainland lies approximately between $88^{\circ} 10'$ and $89^{\circ} 10'$ west longitude and between 16° and $18^{\circ} 30'$ north latitude. With the Caribbean Sea washing it on the east, it has for its western boundary Guatemala and Mexico. To the south is Guatemala and to the north Mexico. It is thus well within the Tropical Zone.

While it is not true that all the coast is swamp, it must be admitted that considerable stretches of it are. But long stretches are fairly

¹ From "United Empire," The Royal Colonial Institute Journal, September, 1921.

good land. These are high sand ridges, which, as a rule, are planted out with coconut trees. It could be said with as much accuracy that the country has a fringe of coconut trees, for when traveling along the coast they are to be seen everywhere. The coastal belt of the colony is however, low-lying. As one goes back from the coast the country becomes higher until the boundary is crossed into Guatemala, where there are considerable mountains.

In British Honduras itself the highest-known altitude is attained in the Cockscomb Mountains, Victoria Peak reaching a height of 3,700 feet. The northern half of the colony is not so broken as the southern, and there are very few hills. An immense belt of country lying between the New River and the Rio Hondo to the extreme north of the colony is practically without elevations at all. There can be few countries that are better watered than British Honduras. Rivers and creeks abound. It must be said, however, that few of them are of much use for navigation, at any rate for anything else than small dories. The course from the hills to the coast being such a short one, they are naturally much broken up by "runs" and "falls," and another feature that interferes with their free navigation is the fact that they all have a bar at the mouth which prevents any but very shallow draft vessels from entering. The river most used for navigation, constituting indeed the "highroad" of the colony, is the Old River, at the mouth of which is Belize, the capital. This crosses the colony from the Guatemala border to the sea, and on it is carried much of the trade and commerce of the Peten district of Guatemala. It forms the divide between the level area and the mountainous area. All the elevations worth considering lie to the south of it. The rivers to the north that cross the level area are generally much better suited for navigation than are those to the south, which all have to cut their way through ranges of hills. The extreme northern boundary of the colony is formed by the Rio Hondo and its branch, the Rio Azul, or Blue River. Entering the sea a few miles south and running parallel to the Rio Hondo for the greater part of its course is the New River. Between this and the Old River the only stream of any importance entering the sea is Northern River. South of the Old River the following streams enter the sea: Sibun, Manatee River, Mullins River, Stann Creek, Sittee River, Southern Stann Creek, Monkey River, Deep River, Golden Stream, Moho River, Temash River, and the Sarstoon, the latter river forming the southern boundary of the colony.

Among other noticeable features are the lagoons. Along the coast are quite a number of these, some of considerable area. British Honduras is, however, perhaps best known, at least to mariners, for the numerous reefs and cayes which guard its low-lying coast from rapid erosion. These cayes number at least two hundred.

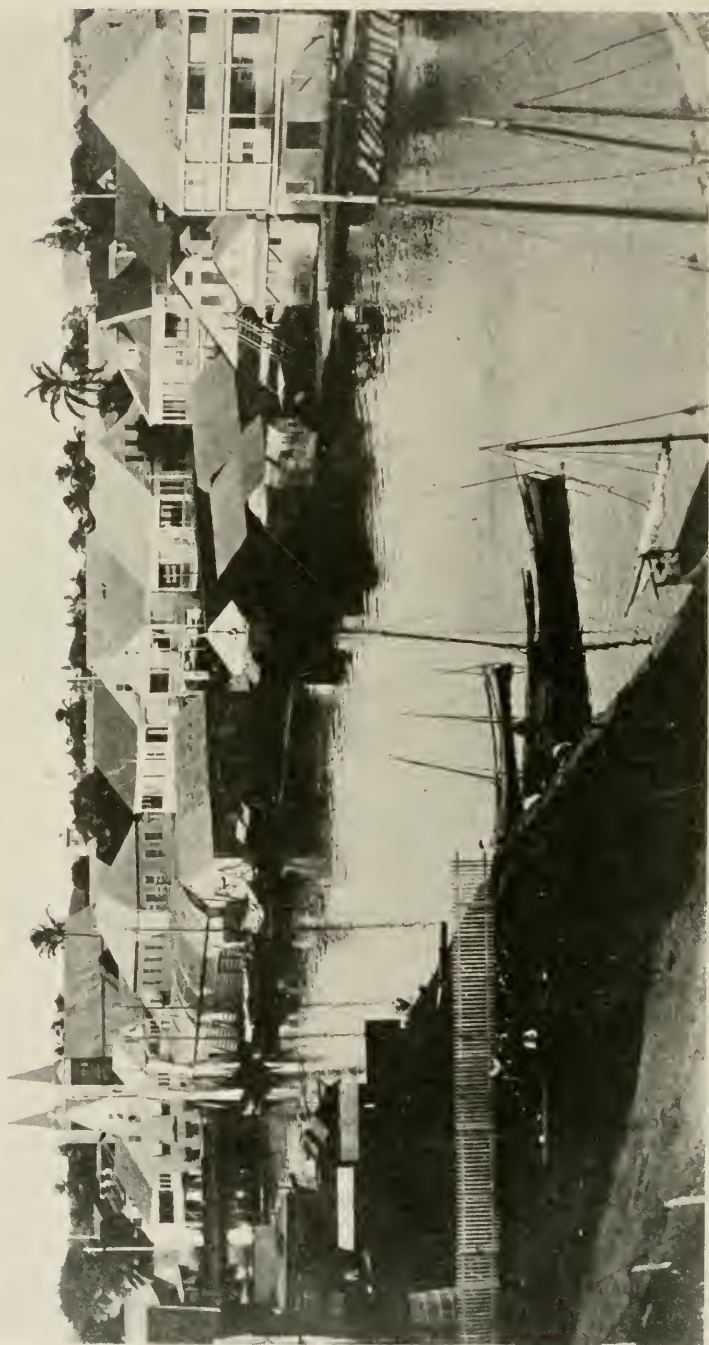


Photo by Browne Bros.

THE WATER FRONT OF BELIZE, THE CAPITAL OF BRITISH HONDURAS.

Some are merely patches of mangrove swamp with no solid land at all. Others are hard sand ridges, lying high and dry and inhabited by a few fishermen. All the habitable ones of any size at all are planted with coconut trees, and these palm-crowned cayes, nestling in the blue waters of a tropic sea, make a very pleasing picture. The smaller cayes, lying out of boat routes and perhaps not visited more than once or twice during the year by some wandering fishermen, are the nesting places of many sea birds. The largest and best known of the cayes is Turneffe. This is a large mass of lagoons, creeks, and solid land covering roughly an area of 120 square miles. While all the cayes have their associations, in rumor and legend at any rate, with the old days of the Pirates of the Main, Turneffe is especially accredited with being the former haunt of the buccaneers, and, it is supposed, hides much ill-gotten treasure. It is also the home of large snakes of the constrictor species.

The vegetation is usually classified as follows:

(a) The lands along the rivers or creeks which are very fertile are known as "Cohune ridges," owing to the prevalence in such areas of the Cohune palm, always a sign of fertile lands in this colony. It is generally in such areas also that the mahogany occurs, and where this is the marked feature it is referred to as a "mahogany ridge."

(b) Areas lying beyond the "Cohune ridges," which are less fertile and more open, known as "broken ridges."

(c) Areas which produce only a growth of pine trees and a coarse type of grass. These are called "pine ridges." There is a tremendous area of this "pine ridge" carrying an enormous number of pine trees.

Of the forest trees the best known are the mahogany, rosewood, and Spanish cedar, cut for export; the sapodilla, from which chicle, the crude basis of chewing gum, is bled; the red and black mangrove, cotton tree, yemery (used for making native dugout canoes or dories), logwood, and lignum-vitæ. There is a native rubber tree, the castilloa variety; and the cacao tree is also a native. Sarsaparilla is a common growth, as are also the vanilla vine and the castor-oil plant. The Cohune palm adds great beauty to the forests with its large fronded leaves of any length up to 30 feet, and generally with a luxuriant growth of parasitical plants around the base of the leaves. There may be hanging from it as many as four bunches of the Cohune nuts, looking for all the world like huge bunches of grapes. The nuts are probably one of the richest in percentage of oil content of any of the oil nuts, but the difficulty of cracking them to prepare the copra (or meat of the nut) has so far hampered the commercial exploitation of them. Numerous smaller palms add to the beauty of the "Bush." Orchids are abundant in many parts of the colony, and at certain

times of the year many of the forest trees are a mass of beautiful blossoms.

Oranges, limes, guavas, grapefruit, pineapples, and mangoes are among the fruits grown. The sapodilla tree produces a very nice eating fruit locally known as the sapodilla apple. Coconuts, as I have already mentioned, are cultivated all along the coast, on the cayes, and, to a certain extent, up some of the rivers. Bananas and plantains are also cultivated, and bananas form one of the principal items of export. Sweet potatoes, cassava, and yams are grown for local consumption.

The true natives of the colony are several branches of the Maya Indians whose civilization has long since passed away. The Spaniards and British contested for supremacy in this area for a long time. African Negroes were brought to this country, as well as to other West Indian possessions, in large numbers, as slaves, by their European masters. The descendants of the same slaves now form the greater proportion of the population, and although in general conversation they are referred to as "the natives" they are not aboriginal. The whole population is only about 42,000.² As the area is only about 7,560 square miles and about 11,000 of the population are in Belize, it will readily be seen that the colony is sparsely populated. In addition to the Indians and Negroes there are a large number of Caribs, descendants of the wandering parties who in years long past eventually reached this coast from their homes in the West India islands, and formed small settlements here. A few Spaniards are scattered through the colony, descendants of the old Spanish conquerors. The British population is quite a small one. There are a few families who have been domiciled in British Honduras for several generations, but for the most part the British are "birds of passage." Races have naturally become very mixed. The most dominant intermixture is that between the old established Spanish population and the Indians, resulting in the brown Spanish-speaking people, known throughout Central America as Mestizos. In the colony of British Honduras the Mestizos form roughly 20 per cent of the population.

The fauna of the colony is extensive. The largest of the native wild beasts is the tapir, locally called the mountain cow. The cat family is represented by the jaguar, the puma, and the ocelot. The jaguar is known locally as the leopard tiger or spotted tiger; the puma as the red tiger and the ocelot as the tiger cat. There appear to be several varieties of wild pig, but they are generally classed as either peccary or warree, the latter being the largest variety. Deer and a variety of antelope are common. Ground game includes the arma-

² The preliminary rough count of the census recently taken gives the population as 45,291.



Photo by Brown Bros.

UNLOADING MAHOGANY LOGS IN BRITISH HONDURAS.

dillo, the paca (known locally as the gib-nut or gibbonet), and a variety of the agouti that the natives call a rabbit. Foxes are very common—they are not large and their color is more gray than red. Raccoons are also common. The kinkajou is a native of these forests and is called the night-walker. The coati-mondi is quite common, being known as the quash. The ant bear, a large species of ant-eater, is frequently met with, as is that large and handsome member of the weasel family, the tayra, whose local name is the bush-dog. This is a very beautiful animal, having a jet-black coat with white markings around the head and shoulders. The common opossum, that deadly enemy of poultry, is unfortunately much in evidence. A smaller variety of opossum is also found—a delightful little animal with a delicate brown-colored fur. A prettily-colored squirrel is also very common. Baboons are found in certain areas only. In the rivers is a large variety of otter, chocolate-brown in color, and larger than the English otter. The local name for it is water dog. The rivers, lagoons, and swamps are the home of both alligators and crocodiles.

Bird life is well represented. On the coast the pelican and the frigate bird (the man-o'-war bird) are familiar figures. The buzzard, or john crow, is everywhere—in the heart of the towns and settlements and in the remotest parts of the jungle. Game birds include the curassow, the cocquericot—a bird in size and physical characteristics like the common pheasant of England, but in color anything from a grayish black to a pale brown—the quam, the quail, partridge, and the magnificent wild turkey. A bird called the clucking hen abounds in the bush. The egret is also found here, and, as elsewhere, is unmercifully butchered for the sake of its plumage. A large variety of the crane species is locally known as the toby full-pot. There is a diminutive variety, of the heron family apparently, known as the poor Joe. Hawks of all sizes and colors are a continual source of worry to the man trying to raise a few fowls. They range from big fellows the size of a vulture to small things about the size of a thrush, the latter seemingly confining their attention to trees and the bush, as they are never seen poisoning or "hawking" after their prey in the open. Along the coast the handsome fish hawk is seen. A large variety of humming birds are among the beauties of the forest. Their gorgeously colored little bodies, catching and flashing back the rays of the sun as they flit from blossom to blossom or poise in their quest of the succulent nectars, make a picture long to be remembered. Of parrots, there are two varieties, a red-headed and a yellow-headed, the latter being the best talker. The parakeet is common, and the macaw, a white-faced variety, is frequently found away from settlements or plantations. Then there are the banana bird, the cardinal bird, and the blackbird. The toucan with its great ungainly bill and

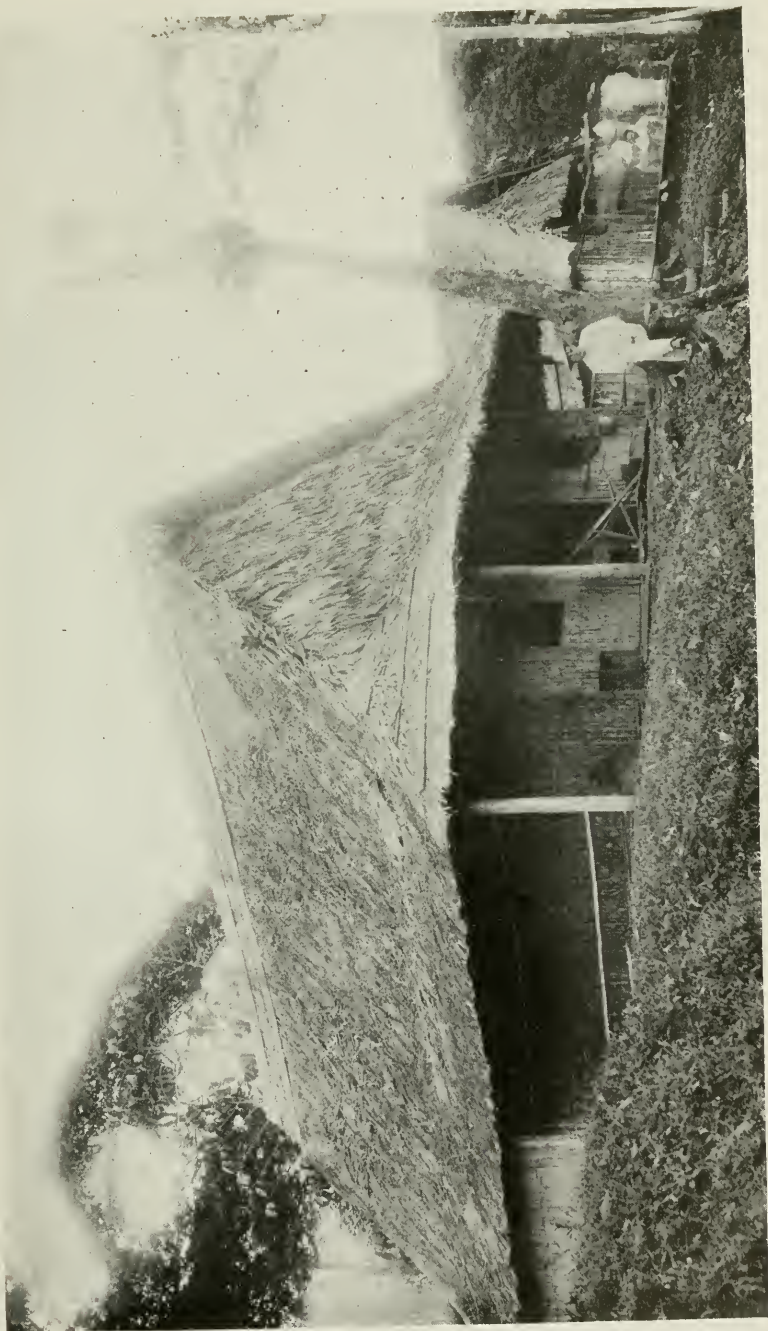


Photo by Brown Bros.

A TYPICAL NATIVE HOUSE IN THE INTERIOR OF BRITISH HONDURAS.

finely colored plumage is a familiar sight. What would appear to be a member of the magpie or jay family is known as the pyampyam (from its cry), and while not as large as the magpie it is as discordant. It moves in flocks and is the bane of all hunters, as no sooner does it see anyone moving or approaching than it warns the whole forest far and near with its blatant cries. It is mischievous and a great thief. In color a grayish brown predominates, but it is white on the breast and among the tail feathers. Several varieties of the kingfisher (some of them very large birds) may be seen along the rivers. The woodpecker is another interesting bird, its big scarlet head and crest giving it a distinctive appearance. Perhaps the most interesting bird met with is the so-called yellow-tail. It is a dull brown with a yellow tail. It belongs to the family of hang nests, and its "colonies" of nests are found throughout the country. The nests are cleverly constructed of woven grasses and are suspended from the very end of the most slender branches of some high tree, a position guaranteeing immunity from practically all risks of molestation. In size the nests are about 3 feet long. Near the point of suspension is a small orifice through which the bird enters the nest. The same nests appear to be used season after season. Around the cayes we get the booby and a variety of tern. Among lizards of many varieties that king of lizards, the iguana, is of frequent occurrence, and eagerly hunted by the natives, who esteem it highly as food.

Insects are innumerable in variety and a source of much annoyance. A clever entomologist could find scope for a lifetime's research in the forests. The beetle family appears to be the best represented, ranging from minute varieties scarcely discernible to the eye, to that giant of the family, the oryctes rhinoceros, the beetle whose larva stage is generally passed in a coconut palm, to the great detriment of the tree. It is known locally as the coconut bug. The tarantula, spider, the scorpion, and the centipede can be looked for in any odd corner. Ants of various kinds and sizes are numerous. The most beautiful variety is a solitary ant marked very much like a bee. The parasol ants (the wee-wee) in long columns of industrious workers, each with a "parasol," consisting of a leaf fragment over its head, are very interesting to watch. The driver ant (known as the marching army ant) often takes possession of a planter's house for several days, and then having cleared the house of other insect pests marches on. Of the other ants found the best known is the red, known locally as the fire ant, on account of the virulence of its bite. Snakes are numerous. On the hills and dry ridges the rattler can always be found. The coral snake, known locally as the bead snake, is frequently met with. Perhaps the most deadly of the local snakes is the yellow-jawed tommy-goff. There is another known as the

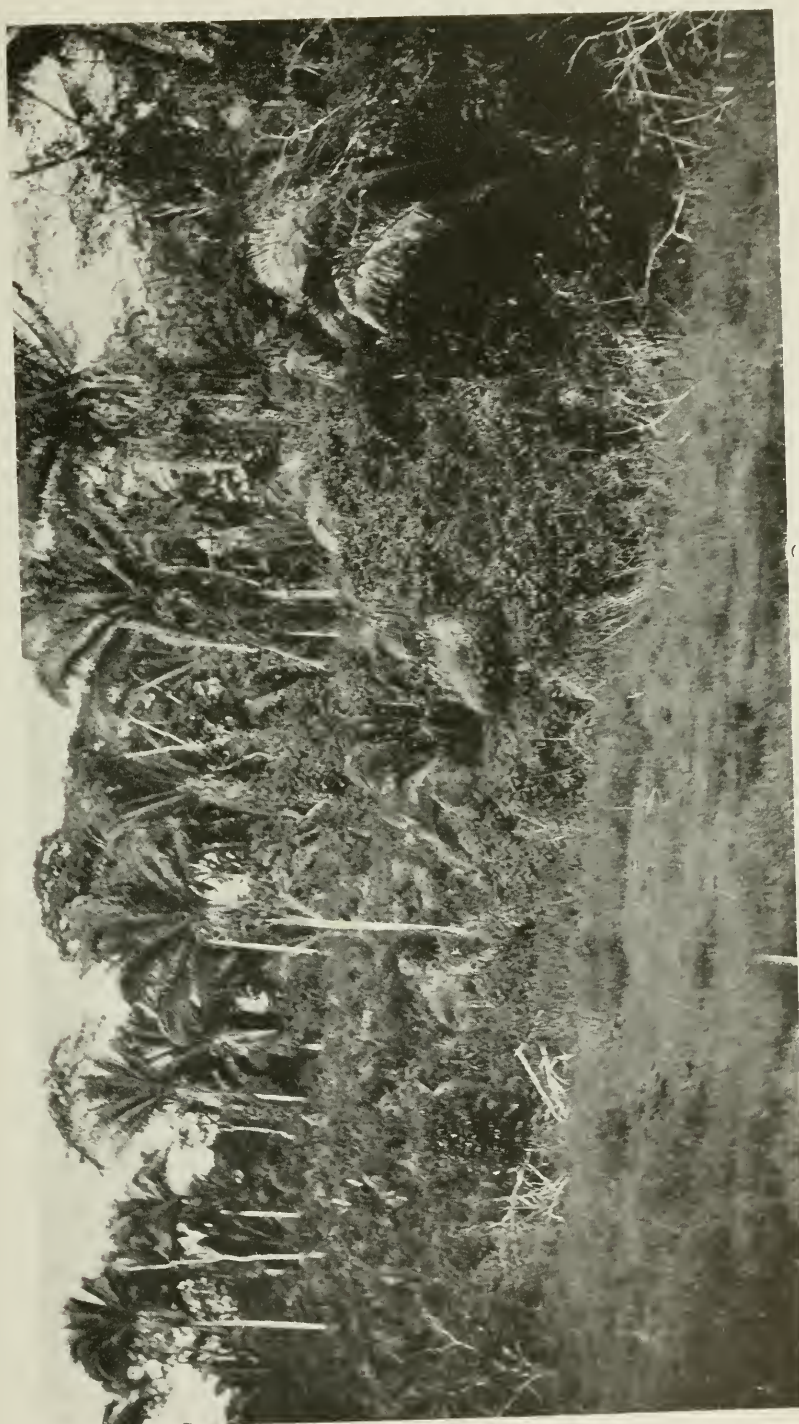


Photo by Brown Bros.

DENSE UNDERGROWTH IN THE LOWLANDS OF BRITISH HONDURAS.

jumping goff, from its very objectionable habit of leaping considerable distances at its object of attack. A small boa is known as the wowlah. This snake is a great enemy of poultry. Among other snakes found are—to give their local names—the “clap and sawer” and the “thunder and lightning.”

The rivers do not contain a great variety of fish; the mountain mullet and the tuba are the principal. In the sea we find among the larger fish the tarpon, the sawfish and swordfish, the jewfish, the snook, the porpoise, and the shark. The small gulf whale is also occasionally seen in these waters. The barracouta, kingfish, and the Spanish mackerel are abundant, and among the smaller fish are the snapper, the mullet, catfish, rockfish, stone bass, bony fish, a fish known as old wife, and a red-spotted fish known as the jimmy hine. The toad fish, a weird repulsive creature, appears to be out of place in contemporary fauna; it looks as if it had come down through the ages without evolution, existing to-day in the same form as probably did its early ancestors in the primeval slime at the dawn of life; it is not a large fish; an average specimen would probably measure 9 or 10 inches over all; the fins seem to be adapted more as pedal extremities for creeping and crawling, and not for swimming; a long protuberance juts out over the mouth proper, and the body is covered with wartlike spots. The remora or sucking fish is also found in these waters, as are the stingaree and the whip-ray. Another strange creature is the manatee, which assumes very considerable proportions. The hawk's bill turtle, the logger-head, and the green or edible turtle are all common, the tortoise shell of commerce being obtained from the first named. In the rivers exist two small varieties of turtle, known as the hicatee and the buckatora.

The industries of the colony are either purely agricultural or dependent upon the exploitation of the forest timbers or their products. British Honduras is perhaps best known to the average man by its association with mahogany. The quality of the mahogany is thought highly of by experts, no doubt because of its uniformity both in grade and figuring. Cedar and Santa Maria (a timber very closely allied to the mahogany) are also cut. The mahogany industry employs quite a big proportion of the local labor, though the lot of the mahogany cutter is by no means to be envied. Hunters locate the wood, which is seldom found in compact stands, but generally scattered over a wide area. A camp is formed of rude palm-thatched huts as headquarters. It must be realized that all the supplies, provisions, etc., for the laborers have to be taken considerable distances up the rivers and creeks to the “banks,” as they term the sites of their camps. The transport is by means of dugout canoes. The rivers may for month after month be so shallow and dry that for long stretches a few inches of water only will be found. At such

places the canoes have to be pushed and hauled, and at the numerous falls and rapids all the cargo has to be taken out and carried by hand to the head of the obstacle and the canoe pulled over empty. The trees having been located, pathways have to be cut to each tree. The trees are then felled and cut into logs, being first cleared of all branches. The logs are drawn by steers to the waterside to await the floods. Within the last two or three years some of the mahogany cutters have been experimenting with the use of caterpillar tractors for hauling, and some of them have had to construct tram roads. The rain comes generally about the middle and end of the year, when the rivers become swollen and flooded and the logs are thrown in and floated down to the mouth of the stream, where they are rafted and tied up to await measurement and shipment. The exportation of logwood was in former years a source of considerable revenue, but with the advent of other and cheaper sources of dyes the demand ceased. War necessity revived the industry for a while. Another dyewood, fustic, is exported in small quantities.

Perhaps a harder life than the mahogany cutters' is that of the chiclero, which is little less lonely and dangerous than the solitary rubber gatherer's in the depths of the Congo forest. He bleeds the chicle from the sapodilla trees, and thus enables thousands, who probably never think of the risks run to obtain it, to indulge in the doubtful luxury of chewing gum. He may be away for weeks and sometimes for months in the heart of the forest. For the most part he will have to rely upon his skill with the gun for food. The trees are bled in the same manner as rubber trees. The gum gets a crude treatment and is then made up into blocks for shipment. In this crude stage it resembles nothing so much as putty. A large proportion of the chicle exported from the colony is the produce of the Peten district of Guatemala. It is curious that a far superior grade of chicle is obtained in the north of the colony; that bled in the south is of inferior quality.

The cultivation of the banana affords employment to a large number of laborers, principally in the southern half of the colony. There is room for extension, and the colony could easily be in a position to load several steamers a week. The cultivation of the coconut is not carried on in a very scientific manner, and does not give much employment. Sugar is grown to some extent, but not in sufficient quantity to satisfy even the local demand. Much of it is used for the preparation of rum; but this is again for local consumption. Tortoise shell, sponges, and hides are exported, but all in small quantities.

Belize, at one of two mouths of the Old River, was the original mahogany station of British Honduras, and is popularly reputed to rest on a foundation of rum bottles and mahogany chips. It is in

any case a most undesirable site for a capital. A large amount of business is done in and through Belize, and there are a number of up-to-date stores where all classes of merchandise can be purchased. The principal other settlements are El Cayo and Benque Viejo, settlements near the head of the Old River on the western frontier; in the north are Corozal and Orange Walk; Stann Creek (the banana port) and Punta Gorda to the south are other important settlements. Mullins River, Manatee, and Monkey River are coast villages; there are scattered about several villages, principally near the northern frontier. The interior of the southern half of the colony is a big blank, except for a few settlements near Punta Gorda. The colony is, for the Tropics, quite healthy, the only serious malady being malaria, which with care can be guarded against, and is in any case not more serious than is, say, the risk of pneumonia in a cold country. The average man associates the colony with yellow fever, but there has not been a case of this for many a long year.

There is room for tremendous developments. Much of the colony is as yet not even explored, and there has been no geological or mineralogical survey at all. A few prospectors have reported the existence of coal and gold, but have never substantiated their claims. It is impossible to say what organized investigation may disclose. With neighboring countries so rich in mineral wealth it seems as if this colony must possess some. It will, if found, probably be to the south of the Old River. Vague rumors of the existence of oil have often been circulated, and it would really seem that there may be some truth in them. Should they materialize it will do much to lift this little colony out of its present state of lethargy. Lack of any good means of transportation and communication must always prevent any agricultural progress. Good roads or light railways would mean an immediate development of latent possibilities in this direction. Jungle trails and creeks full of falls and rapids and with dangerous bars to negotiate at the mouth are hardly suitable for the transport of bulky products of the soil, and at present these are about the only "lines of communication." Along the coast, canoes, various types of sailing craft, and a few power boats provide transportation. There are only two points where steamers can pick up their cargoes from a pier—these are both banana centers, one being Stann Creek and the other a small plantation known as Riversdale.

The colony has a big future, if increased facilities for commerce with the outside world were provided and methods of internal transportation were improved. At present there is little inducement for the man with capital to step in and attempt to get things going.

DOMESTIC RATES ON PAN AMERICAN MAIL .:

DOMESTIC postal rates are now in force on mail sent from the United States to Spain and its colonies; also to Argentina, Bolivia, Brazil, Colombia, Costa Rica, Cuba, the Dominican Republic, Ecuador, Honduras, Mexico, Nicaragua, Panama, Peru, and Salvador. As it has been customary in many countries to collect from the addressee twice the amount of postage lacking on underpaid mail, the new régime not only removes one of the small but exceedingly irritating penalties due to carelessness in stamping foreign letters and packages, but gives a very considerable new impetus to correspondence and trade by reason of the reduced cost of communication.

The BULLETIN for March, 1921, reported that the postal convention signed in Madrid November 11, 1920, which provided for mutual interchange at domestic rates of all classes of mail matter between the Pan American Republics, Spain, the Spanish colonies, and the Philippine Islands, had been put into force February 1, 1921, prior to ratification, by the postal authorities of Bolivia, Colombia, Honduras, Nicaragua, and Peru, the convention having made provision whereby the respective signatory nations might conclude inter-conventions of this nature. It was also in effect between the United States and the five countries named, as the Post Office Department of the United States, in consonance with the authority vested therein, had declared the convention in force.

It is indeed a source of gratification to note the alacrity with which so many countries have given their adherence to the Convention of Madrid, and to realize that it is a question of but a short time before the list of signatories will be complete, so far as working practice is concerned.





Photograph by Manrique & Cia.

DIRECTORS OF THE FIRST CONGRESS OF VENEZULAN AGRICULTURISTS, STOCK BREEDERS, MANUFACTURERS, AND MERCHANTS.

Seated (left to right): Señor Don Juan E. Paris, President (Agriculturist); Señor Gen. Félix Galavis, First Vice President (Stock Breeder).
 Standing (left to right): Señor Don Victor V. Maldonado, Secretary General of the Executive Committee of the Congress; Señor Don Carlos Delfino, Second Vice President (Manufacturer); and Señor Don Tomás Sarmiento, Third Vice President (Merchant).

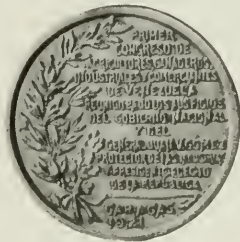
FIRST CONGRESS OF VENEZUELAN AGRICULTURISTS

THE thanks of the PAN AMERICAN BULLETIN are due its esteemed colleague, Señor Victor V. Maldonado, Director of La Hacienda, and Secretary General of the Executive Committee, for the receipt of an advance copy of the official report of the plan, organization, and complete program of the "First Congress of Venezuelan Agriculturists, Stock Breeders, Manufacturers, and Merchants," held in Caracas from July 2-23, as duly announced in a previous issue of the BULLETIN.

This publication, which constitutes a valuable addition to the Columbus Memorial Library, will bear careful study by all those interested in the progress and prosperity of the American Republics and, particularly, of Venezuela. In it are discussed with lucidity and intelligence the chief occupations of the Venezuelan people which, while not differing greatly from those in a dozen other American republics, offer an extensive and profitable field for the investment of capital. The reports covering the different kinds of exhibits are particularly commendable.

Such assemblies and conventions as the one discussed can not fail to be of benefit, since they stimulate in a scientific way a proper exploitation of the natural resources of a nation or people, and it is to be hoped that the good example set by Venezuela will soon be followed by those American Republics which, so far, have not inaugurated similar national undertakings.

Meanwhile the PAN AMERICAN BULLETIN congratulates the Republic of Venezuela and the patrons and members of its first national congress of agriculturists on their most laudable achievement.



MEDAL COMMEMORATING THE FIRST CONGRESS OF VENEZUELAN AGRICULTURISTS, STOCK BREEDERS, MANUFACTURERS, AND MERCHANTS.



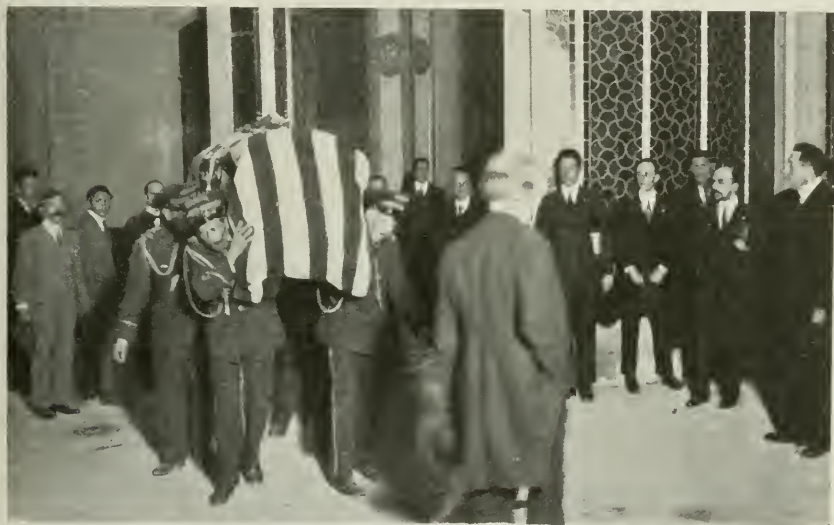
Courtesy of Dr. Alfonso Pruneda, General Secretary, Superior Board of Health, Mexico City.

THE OBSEQUIES OF DR. HOWARD CROSS LYING IN STATE, IN THE DEPARTMENT OF HEALTH, VERA CRUZ, MEXICO.

DR. HOWARD CROSS: A MARTYR TO SCIENCE

THE Mexican Government, the scientists and citizens of Mexico in general, united in rendering posthumous homage to Dr. Howard Cross of the Rockefeller Foundation who died December 26, in Vera Cruz as the result of an attack of yellow fever acquired in the prosecution of investigations connected with that deadly disease.

The remains of the deceased were embalmed, placed in a casket draped with the Mexican and American flags, and transferred from Vera Cruz to Mexico City on the way to the deceased's home in Edin,



Courtesy of Dr. Alfonso Pruneda, General Secretary, Superior Board of Health, Mexico City.

THE FUNERAL CORTÈGE LEAVING THE DEPARTMENT OF HEALTH, VERA CRUZ,
FOR THE RAILROAD STATION.

Oklahoma, the cortege being accompanied by Drs. Caldwell, Ojeda, Ramirez, and Castañeda and numerous members of the Red Cross of Vera Cruz, various scientific bodies, sanitary delegations and representatives of the Medical Society of Vera Cruz.

Dr. Cross rendered important and heroic service during the late war, in addition to eminent service in connection with the present yellow fever investigation. He was born in Oklahoma and graduated with the highest honors from the University of that State.

Dr. Cross's untimely death adds one more to the list of martyrs to the cause of science. His memory will long be cherished, both in Mexico and the United States, with that of Dr. Walter Reed and others who have laid down their lives for the benefit of humanity.



Courtesy of Mrs. W. C. Farabee.

SCENES AT THE DEDICATION OF THE MONUMENT TO SAN MARTÍN, IN LIMA, PERU,
JULY 24, 1921.

In connection with the celebration of the centenary of Peruvian independence, a monument to General San Martín was unveiled in San Martín Plaza, Lima, at which representatives from thirty-two nations were present. Upper: The President of Peru in his box. Lower: Officers from the U. S. S. Arizona, Oklahoma, and Nevada.

AGRICULTURE, INDUSTRY AND COMMERCE

ARGENTINA.

EGG EXPORTS.—Argentina has for some time exported eggs and has recently increased the amount shipped out of the country. Figures show that Great Britain is the largest buyer of Argentine eggs and butter. In September Argentina shipped 27,103 cases of eggs, and in October, 51,963 cases, with every prospect of a growing trade in these food supplies through the European winter.

FUTURE OF ARGENTINE WOOL INDUSTRY.—According to the United States Commerce Reports of January 2, 1922, the Argentine wool industry is manifesting a great development. Formerly wool raised in Argentina was sent to foreign countries to be spun, but was returned to Argentina to be woven. Spinning mills have been annexed to the existing factories and to-day there are many factories in the country with departments for washing, spinning, weaving, dyeing, and doing everything needed for the transformation of wool into cloth. The future can be foreseen in the growing factories, one which covers an acre and a quarter, with additional space given over to the houses of operatives and foremen. This factory has a capital of 3,000,000 pesos and employs 500 men. The wool is purchased in the Buenos Aires market. The output of the washers is 4,000 kilos per day; the factory has 8,000 spindles, producing 1,200 kilos of thread in 10 hours. The looms employed are English, German, French, Italian, and Spanish. The designs of the cloth produced are numerous and varied.

NATIONAL EXPORTS.—The exports of national products for the first 10 months of 1921 is as follows: Wheat, 1,591,255 tons; maize, 2,395,324 tons; linseed, 1,129,403 tons; barley, 45,853 tons; oats, 362,574 tons; flour, 39,665 tons; by-products of wheat, 123,887 tons; quebracho logs, 6,581 tons; quebracho extract, 103,770 tons; lard, 634,528 cases; forage, 195,447 bales; calfskins, 188,799; dried cattle hides, 897,857; salted cattle hides, 1,920,874; colt skins, 59,461; sheepskins, 25,032 bales; wool, 288,938 bales; bristles, 3,404 bales; tallow, 130 pipes; tallow, 96,774 casks; tallow, 1,215 tuns (225 pounds each); frozen beef quarters, 2,620,640; chilled beef quarters, 1,264,469; refrigerated mutton carcasses, 1,906,318; refrigerated lambs, 787,893.

HYDROPLANES WANTED IN ARGENTINA.—The Argentine Director General of Navigation has issued a call for bids for four hydroplanes with two extra motors, spare parts, and accessories for use on the Bermejo River, according to Commercial Attaché Edward F. Feely, in Buenos Aires. The hydroplanes must have accommodations for eight persons seated, including the pilot and the mechanician. The bids are to be in by March 15 and the delivery must be made within five months after the award is made.

ARGENTINE FRUIT TO NEW YORK.—One of the first large shipments of fruit from Argentina arrived in New York January 24, aboard the steamship *Aeolus*, following the December consignment of cherries. The shipment consisted of nearly a ton of peaches, plums, and apricots. Late advices from the United States commercial attaché in Buenos Aires state that all cold-storage space on the *American Legion*, *Southern Cross*, and *Aeolus*, sailing in February from that port, had been taken for fruit. The February shipments are said to be of superior quality. With the Chilean fruit shipments and those now coming from Buenos Aires, the New York market will have a supply of fresh fruits from South America throughout the winter months.

CONGRESS OF AGRICULTURAL ASSOCIATIONS.—On December 22 a congress of agricultural associations took place in the Consignees' Building. Representatives of the following bodies were present: Argentine Rural Society, Consignees Society, Agrarian League, and the Association of Real Estate Auctioneers. The director of the Livestock Bureau of the Department of Agriculture, and the presidents of the Commerce Exchange and of the Federation of Commerce, Industry, and Production attended. Specialists and members of consulting boards were also invited. On the program were the following topics: Sale policy for farm products as related to the price of meat for consumption; livestock census and the necessity for its rapid completion; regulations for marketing farm products and refrigerated meat to avoid abrupt price changes; means for securing the stabilization of European markets by means of Government export credits; elimination of domestic taxes not imposed by municipal or provincial governments; and other kindred subjects.

ITALIAN-SOUTH AMERICAN CABLE.—A company is being developed to lay a cable from Funicino, on the Tiber near Rome, via Malaga, Canary Islands, Cape Verde, Fernando de Noronha, Rio de Janeiro, and Montevideo, to Buenos Aires as its terminal. The work is to be finished in three years. The company is assured by the Italian Government of an average of 6,000,000 words, or 15,000,000 lire, a year for 10 years, which will cover the operation, maintenance, and amortization costs. A representative of the company has been visiting South America.

BOLIVIA.

STANDARD OIL CO. OF BOLIVIA.—The Government has approved the statutes of the Standard Oil Co. of Bolivia (Inc.), incorporated with a capital of \$5,000,000 to develop the oil fields of the country.

BELGIAN INDUSTRIAL MISSION.—A Belgian Industrial Mission, under M. Georges Rouma, recently visited Bolivia on its tour through Latin America. The mission was composed of representatives of the steel companies, metal and foundry works, and textile factories.

VILLAZÓN-ATOCHA RAILROAD.—The company constructing the railroad from Villazón to Atocha has officially informed the Bolivian Government of the placing of bonds for the \$7,000,000 loan, and that the work is to be started very soon.

BRAZIL.

ROAD CONSTRUCTION AND PROMOTION IN BRAZIL.—The following is quoted from the United States Commerce Reports:

In the State of Santa Catharina 1,800 kilometers of roads suitable for automobile traffic and 200 kilometers of branch roads were constructed during the period of one year. The roads of the State in various stages of completion and construction amount to 7,350 kilometers, of which 2,100 kilometers are highways in use, 1,950 kilometers are highways in construction, 1,600 kilometers are municipal highways, 1,500 kilometers are branch roads in use, and 200 kilometers are branch roads in construction.

Considerable activity along the lines of road building and public works is reported from the State of Espirito Santo, most of the undertakings being of a local nature.

The Brazilian Congress has been requested to authorize the construction of a bridge over the Rio Grande, connecting the State of Sao Paulo with three adjoining States. The bridge is to be 531 meters long and would cost 2,400,000 milreis (1 milreis at present is equivalent to about \$0.12½ U. S. currency).

The development and construction of new roads in Brazil is considered of such vital importance that the revival of the old Automobile Club of Brazil is advocated. Such a club would seem appropriate in Rio de Janeiro, a city of over a million inhabitants and with between 5,000 and 6,000 automobiles.

Dealers in automobiles and accessories, established in Rio de Janeiro, have founded the Associação dos Comerciantes de Automoveis e Accessorias do Rio de Janeiro with a view to creating a certain unity in the purchase and sale of automobiles and accessories.

ELECTRIFICATION OF THE PAULISTA RAILWAY.—Twelve 3,000-volt direct-current locomotives are being supplied by the General Electric Co. for service on the Paulista Railway. This will be one of the largest railway electrifications inaugurated this year in South America, involving 28 miles of double track on a 72-mile project. The gauge is 63 inches. The road is located in the State of São Paulo, in the heart of the coffee district. It is an important link in the transportation of the São Paulo crop to the seaboard.

THE ANGLO-BRAZILIAN IRON AND STEEL SYNDICATE.—President Epitacio Pessoa has issued Decree No. 15,074 of October 28, author-

izing the celebration of a contract between the Government and the Anglo-Brazilian Steel Syndicate (Ltd.) to establish one or more plants for melting iron ore, making steel from pig and scrap iron, rolling work in hot and cold steel, and iron and steel castings.

BRIDGE BETWEEN RIO DE JANEIRO AND NICTHEROY.—Sebastião Barroso, a Brazilian citizen, has petitioned Congress for a concession for the purpose of connecting Rio de Janeiro with the city of Nictheroy by means of a metallic bridge running from the embankment of Castello Hill on the Rio de Janeiro side to Gragoatá on the opposite shore. It is understood that the bridge is to have sufficient width of span and height to prevent its interfering with navigation. The petitioner proposes to construct and operate a wharf and warehouses in Nictheroy, and demands the right to charge toll for pedestrians, as well as docking fees and storage, at rates to be approved by the Government. A period of one year is requested in which to submit his plans to the Government, another period of two years in which to begin the work, and another of six years for the conclusion of the same. The petitioner, or company organized by the same, is to enjoy the full benefit of operating the properties during the period of the contract, after which they are to revert to the Union without indemnity of any sort.

A NEW GOLD MINE IN MINAS GERAES.—The Club de Engenharia met in November last to hear the report of Engineer C. R. Fisher on the investigation of the gold mine recently discovered at Salt, on the Corrego das Cabras, a tributary of the Arassahy River, in the State of Minas Geraes. The governing board of the club appointed Prof. Henninger to examine Mr. Fisher's report in detail, after which it will be submitted to the consideration of the Secretary of Agriculture, Industry, and Commerce. The report is a thoroughly scientific work, and goes to prove that the new mine constitutes the matrix of the gold alluvium not only of that district but of the basic gold-bearing body of the continent.

LLOYD BRASILEIRO TRANS-ATLANTIC ROUTES.—Following is the general plan of the trans-Atlantic lines of this company now in operation: Passenger lines—First line between Santos and New York, steamers *Avare*, *Bagé*, and *Curvello*; second line, between Santos and Hamburg, with the steamers *Cuyabá*, *Caxias*, *Poconé*, and *Santarem*; third line, between Santos and Genoa, devoted specially to the service of immigration, steamers *Benevente*, *Santos*, and *Campos*; fourth line, between Recife and Hamburg, steamers *Baependy*, *Alfenas* and *Maranguape*. Cargo lines—first line, between Santos and New York, steamers *Ayuruoca*, *Madú*, *Parnahyba*, and *Taubaté*; second line, between Santos and New Orleans, steamers *Algrete*, *Jaboatão*, and *Ingá*; third line, between Rio de Janeiro and Liverpool, steamers *Barbacena*, *Caxambú*, *Joazeiro*, and *Pelotas*; fourth line, between

Santos and Hamburg, steamers *Ayurnoca*, *Maude*, and *Parnahyba*; fifth line, between Rio Grande and New York, steamers *Iguassú* and *Sabará*; sixth line, between Recife and New York, steamers *Curytiba* and *Guaratiba*; seventh line, between Rio de Janeiro and Hamburg, steamers *Aracajú* and *Cubedello*.

All these lines, both on their outgoing and return trips, will cooperate in the coastwise service along the Brazilian coast.

Capt. Nelson Guilhobel, present chief of the sea-going staff of the Lloyd Brasileiro, has been appointed to join the agency at the Liverpool terminus of the new line of cargo steamers which has been established for England. These steamers, on their return to Brazil, will perform the service of transporting coal from Cardiff to Rio de Janeiro.

Beginning with this year the Lloyd steamers will carry from English ports all the coal required for consumption on the Central Railway of Brazil.

PRICES OF PASSAGE ON THE LINES OF LLOYD BRASILEIRO.—The governing board of the Lloyd Brasileiro has decided to effect the following changes in their passage rates to Europe and the United States: First-class passage to Lisbon and the north of Europe, 800 and 1,000 milreis, respectively (\$104 and \$130); second-class passage to the same points, 300 and 400 milreis (\$39 and \$54); first-class passage to the United States, 1,700 milreis (\$221).

NEW STEAMER SERVICE.—According to press reports Messrs. Rogers and Webb, agents for P. Kleppe & Co., of Bergen, Norway, have announced that a new steamship service is to be inaugurated immediately between Boston and the River Plate and Brazilian ports. Five steamers are to be placed in this service, it was announced.

CHILE.

HYDROELECTRIC DEVELOPMENT.—There has been recently organized in Santiago a company with a capital of £12,000,000 sterling whose chief object is to develop electricity from the waterfalls in central Chile for supplying light and power to Santiago and other cities and towns. The new company, which is called the *Compañía Chilena de Electricidad, Limitada*, was formed as a combination of the *Compañía Nacional de Fuerza Eléctrica* and the *Chilean Tramway & Light Co.*, and will supply the power for the electrification of the first zone of the Chilean railways, between Santiago and Valparaiso, in addition to the many other uses to which the power will be put.

The company has a plant 12 miles from Santiago, with a capacity of 20,000 horsepower, and another in Santiago, of 18,000 horsepower, soon to be increased to 28,000. At Maitenes, 3.5 miles from Santiago,

on the Colorado River, a great plant to be finished the middle of 1922 is in process of construction. It will furnish 35,000 horsepower. Later the company plans to build at Puente de Cristo one of the most powerful hydroelectric stations in the world, capable of developing 65,000 horsepower. Central Chile will then have at its disposal a force of more than 100,000 horsepower, derived exclusively from the rivers of that region, a source of incalculable benefit in the general progress of the country.

RAILWAY COMMISSION.—A commission of engineers has been sent to Germany to inspect the construction of a shipment of rails ordered by the Railway Administration from the Krupp and Stinnes plants and to study the use of steel in railway material. The rails ordered will weigh about 12,000 tons and will cost approximately 6,000,000 pesos.

NATIONAL CONGRESS OF INSTRUCTION, AGRICULTURE, AND VETERINARY SCIENCE.—The two chief recommendations of this congress, which met in Santiago last fall, were the immediate creation of a Ministry of Agriculture, considered indispensable for the coordination of the efforts being made to promote national agriculture and lay down basic principles for the settlement of the great agricultural problems of the Republic; and the early passing of the rural code, greatly needed in connection with agricultural labor.

PACIFIC FRUIT CO.—The Pacific Fruit Co., whose main office is in Valparaíso, has been incorporated for a term of 50 years. It will buy and sell fruit and other natural products originating in Chile and other countries of South America on the Pacific coast, and will export Chilean merchandise in order to facilitate the purchase of foreign fruit and other products. It may also carry on fruit raising or other industries. The capital of the company is 500,000 pesos.

NITRATE PROPAGANDA.—The Government has granted the Association of Nitrate Producers the sum of £40,000 sterling for the purpose of carrying on nitrate propaganda abroad. The producers will add £90,000 to this amount.

NITRATE.—Nitrate statistics up to November 1, 1921, were as follows: Production from January to October, 1921, inclusive, 25,398,632 Spanish quintals; exportation for the same period, 21,185,598 quintals; supply on the coast, October 31, 1921, 32,246 quintals: in Europe and Egypt, 17,226,000 quintals on land and 1,876,798 quintals aboard ship.

NATIONAL SUGAR CO.—A corporation has been formed in Valdivia to cultivate sugar beets and start the manufacture of sugar in the Republic.

APPARATUS FOR MAKING STARCH.—A Chilean citizen has taken out a patent on a machine for making fine starch, which also makes use of the other components of the wheat, especially the gluten. With

slight changes the machine may be used for separating clayey and siliceous substances.

COLOMBIA.

WOOLEN GOODS.—A factory turning out 1,000 meters of woollen goods a day has been established in a suburb of Bogotá. It is equipped with machinery brought complete from a Belgian factory, and carries on all the processes necessary to the manufacture of the finished product, beginning with washing the wool. The company intends soon to begin the importation of sheep of the best wool-growing breeds. These will be sold on easy terms to farmers in order to promote the development of the wool industry.

PETROLEUM.—According to the United States Commerce reports, an American oil company, the only company now known to be producing oil in Colombia, expected to market oil in the Republic by the middle of January. There are three producing wells on the company's concession near Barranca-Bermeja, and a refinery and six tanks at that place. Seven fuel-oil stations, having a capacity of 10,000 barrels each, will be built to supply the railway and river steamboat service, thus marking a new epoch in Magdalena River transportation.

CARTAGENA DRY DOCK.—Two American engineers have been in Cartagena studying the work to be done in connection with the dry dock canal, for which the company has on hand a fund of 120,000 pesos.

CIGARETTES.—Bucamaranga has a modern cigarette factory whose four cutting machines have a capacity of 300 kilograms an hour. Other machines complete the process. All are run by electricity, and were purchased at a cost of 100,000 pesos gold.

CÚCUTA RAILROAD.—See page 296.

COSTA RICA.

ALCOHOL MOTOR FUEL.—The Fábrica Nacional de Licores is manufacturing motor spirit, a new economical alcohol fuel, which according to reports is being used with great success in trucks, automobiles, and road machinery.

ALAJUELA'S HYDROELECTRIC PLANT.—A contract has been signed for the purchase of land for the construction of an electric light and power plant for the municipality of Alajuela and the surrounding towns.

ROAD TO NICARAGUAN FRONTIER.—A new road has been built from Upala to the Nicaraguan frontier. It will open up communication for over 100 farmers of this region who raise cattle and coffee. There are also 250,000 cacao trees around Mexico, Guacalito, Upala, Tenorio, and Las Cañas in an area of 70 kilometers. The

person who built the road paid 6,000 colones for the work, and his only request of the Government is that it be given to public use and repaired once a year.

CUBA.

RAILROAD RATES.—On the 1st of January the reduction of railroad rates went into effect, the scale in force on April 30, 1919, being reestablished.

TOBACCO INDUSTRY.—The Union of Tobacco and Cigar Manufacturers presented to the first National Congress of Economic Organizations a program of measures which it considers important for the protection and development of its industry. Among these are reduction of taxes and railway rates, improvement of the means of communication, decrease of duties on necessary machinery, and legislation favoring the importation of cottonseed-oil cake for fertilizing tobacco fields. The Union also asks for an embargo on the importation of foreign tobacco.

SUGAR FINANCE COMMISSION.—See page 297.

ECUADOR.

RAILROAD.—The Government has made a contract with Sr. Gaston Thoret to build a narrow-gauge railway from Guayaquil through Balzar, Catarama, and Montalvo to the city of Babahoyo and intermediate stations.

MEXICO.

WEST COAST BOATS.—The new Compañía Naviera de los Estados Unidos de Mexico will have six freight and passenger boats sailing from Salina Cruz to Los Angeles, California, and calling at the Mexican ports en route. The stay in each harbor will be long enough to give an opportunity for transacting business. A party of Los Angeles merchants planned to make an excursion via this line during the latter part of January, in order to strengthen commercial and friendly relations between the cities united by this much-needed route.

RAILROADS.—Since the railway board of national lines has been under Government control the following sums have been spent in construction and repairs: 1917, 2,227,527.68 pesos; 1918, 3,627,843.53 pesos; 1919, 4,944,584.68 pesos; 1920, 3,715,919.98 pesos; and 1921, 5,074,362.50 pesos. The last amount covers the construction of the Cuatro Ciénegas line and of those from Durango to Cañitao, Llano Grande to El Salto, and Saltillo to Oriente, as well as the cost of various other improvements.

In the last seven months the freight congestion of 250,000 tons at Vera Cruz has been cleared up; day and night service has been started on the Vera Cruz Interocean Railroad; the passenger trains from

Laredo and Ciudad Juárez to Mexico City have been provided with complete new equipment; and Pullman cars have been added to the trains running from Mexico City to Manzanillo and Guadalajara and from Vera Cruz to Suchiate, on the Guatemalan frontier.

PETROLEUM STATISTICS.—The Government Petroleum Department furnished the following figures published in *Excelsior* for January 2: Of the present 510 producing wells, 296 are in the Tampico region, 196 in the Tulpan zone, and 18 in Minatitlán. Approximately 600,000 barrels of oil per day are extracted from these wells, whose potential capacity is estimated at nearly 10 times as much. One hundred and thirty-five wells are now being perforated—37 in Tampico, 89 in Tulpan, and 9 in Minatitlán. In 1921, 58 productive wells were bored in Tampico, 90 in Tulpan, and none in Minatitlán, while in these zones 42, 50, and 3 wells, respectively, were abandoned.

The export for December, 1921, was approximately 18,000,000 barrels, the maximum monthly amount reached up to that time.

ROADS.—Road making is going on in many parts of the Republic. The State legislature of Vera Cruz has appropriated 75,000 pesos annually for the extension of the automobile road which will eventually unite that State with the frontier of the United States, as it is to connect with the Tamaulipas roads. It is now under construction from Perote to Altotonga.

Work on the prolongation of the road from Laredo, Tex., to Mexico City was begun the 1st of January with the cooperation of the Laredo Chamber of Commerce. President Obregón has given his official endorsement to this road, and the Texas automobile club is planning to aid in demonstrating to communities along the route the value of such a highway. This road will form an extension of the Bankhead highway which connects Washington and Laredo, so that it will eventually be possible to motor from the capital of the United States to the capital of Mexico.

Construction of the road south from Zacatecas to Juchipila and other cities in the State is also under way. Four tractors and levelers and the small tools necessary for 100 to 200 workmen have been received.

The State of Guanajuato has bought a complete outfit of road-building machinery to be used this year in road improvement.

SONORA AND ARIZONA.—A noteworthy feature of the fair held in Douglas, Ariz., during the latter part of 1921 was the exhibit of natural and manufactured products sent by the State of Sonora, to which first prize was awarded. The Cruz Gálvez orphan asylum of Hermosillo, Sonora, also had an attractive display, consisting of saddlery, shoes, rope, and woodworking products. It is hoped that this amicable rivalry between the States of Sonora and Arizona will continue.

HENEQUEN.—The Comisión Reguladora, which formerly controlled the production and sale of henequen, is to be succeeded by the Comisión Exportadora, whose intention is to get rid of the stock on hand in the proportion of 2 pounds of the new product to 1 of the old, thus probably clearing out the old stock in two years. The Yucatan growers are pledged to a 50 per cent decrease in production.

NICARAGUA.

CONSUL SUGGESTS NEW MARKET.—The Nicaraguan consul in Los Angeles, Calif., has visited the various brick and tile factories to learn about raw materials used in this industry. He found that the colored minerals, clays, and slate were such as Nicaragua has in abundance and that those now being used were mostly imported from Brazil. He has requested the Minister of Promotion to ship samples to the consulates for exhibition to United States industries. Samples of aluminum, iron, copper, and manganese will also be sent.

ADDITION TO DUTY-FREE LIST.—The Collector General of the Customs has added mining accessories, as specified in article 231 of the Mining Law, to the duty-free list published in administrative circular No. 50 of August 17, 1914. The additions include electrical machinery and accessories, all electric batteries, dynamos, insulated wire, insulating tape, insulators, engines, rails, spikes, couplings, bolts for rails, yarn and cotton waste for machinery, any kind of packing, hatchets, emery wheels, carbide of calcium, lubricants, any type of miners' lamps, incandescent lamps, electric bulbs, asbestos gloves, filter cloth, shavings, marble dust, and litharge.

PANAMA.

ALCOHOL AS FUEL.—The Government has appointed a commission of experts to investigate alcohol as a fuel for motors. The commission will go to one of the sugar plantations of Aguadulce to make the experiments. Costa Rica is also experimenting along this line, and alcohol is already extensively used by Habana taxicabs, as BULLETIN readers will remember.

PROJECTED COCONUT-GROWERS' ASSOCIATION.—One of the principal coconut growers has suggested through the press that the coconut growers of Panama form an association to protect themselves against losses due to lack of cooperation and organization. Coconuts have dropped from \$40 to \$17.50 a ton, which reduces the price of the chief agricultural product of the Republic to an amount that does not recompense the grower for his work.

PARAGUAY.

CUSTOMS BONDS.—A resolution passed by the Directorate of Customs on December 9, 1921, states that importers, consignees,

and shippers wishing to get through the customs imported merchandise for which they have no original consular invoice, may do so by depositing in the Banco de la República to the Bonds Account a sum equivalent to 125 per cent of the value of the merchandise, determined in accordance with the tariff of valuations, plus the freight, insurance, and other costs, including delivery in the customs warehouses, and by presenting the credit slip thus obtained to the Treasurer of the Customs. Merchandise not included in the regular customs tariff list will be valued by the customs and bonded for 125 per cent of its valuation. Duty-free merchandise is subject to the same conditions. The bonding deposits may be made in coined gold or legal tender converted at the official rate, and instead of the credit slip mentioned in article 1, coupons of the consolidated 6 per cent bonds of 1915 will be accepted.

TRANS-ATLANTIC STEAMERS.—The agent of the Rotterdam-South American Line has issued a statement that the steamers of that company will now carry a few passengers at very much reduced rates to and from Europe and South America.

NOVEMBER FOREIGN TRADE.—Imports for November amounted to 365,351 pesos and exports to 672,927 pesos, leaving a favorable balance of 307,576 pesos.

CANES.—The manufacture of canes, a new industry, is growing in Paraguay. There are many fine woods which are suitable for the making of walking sticks. Umbrella handles and bracelets of sandal wood are also being made. Some foreign demand is already noted for these articles.

PERU.

TEXTILE FIBERS.—As it is thought that textile fibers may prove to be profitable products of the Republic, two commissions of technical experts will be engaged by the President to introduce and promote the cultivation of plants providing the raw material in question. The importation of machinery for making bags and similar articles will be favored.

NEW ROAD.—A road from Huánuco to Puerto Mario, via Cuchimachay, Pano, and Punta Pinzás, will be constructed from the proceeds of the rural, urban, and industrial taxes of Pachitea Province.

LIMA-CALLAO ROAD.—This road is to be paved with asphalt and concrete on a base of concrete covered with crushed stone. The concessionary who will have the work done receives the right to collect certain tolls for 25 years.

AGRICULTURAL LABORERS.—See page 301.

REPUBLIC OF CENTRAL AMERICA.

KOSMOS LINE.—The German Kosmos Line of steamers has renewed service in combination with the Roland Line of Bremen,

making the trip to ports of the west coast of Central and South America via the Panama Canal.

INCREASED POSTAL RATE.—As the effective postal rate in Guatemala was paid in paper money whose official exchange was much less than the amount paid by the other Governments signatory to the Universal Postal Union and did not cover the actual expenses of the service, the rates were increased as follows, beginning January 1, 1922: Interior service—business papers or letters, each 15 grams or fraction, 50 centavos; postal cards, 25 centavos; and parcels post, each 50 grams or fraction, 50 centavos. Other charges are in proportion.

REPORT OF RETALHULEU.—According to the October report of the political governor of the district of Retalhuleu, Guatemala, the municipal revenue amounted to 112,854.31 pesos and the expenditures to 84,707.40 pesos, leaving a favorable balance of 28,146.91 pesos. Agriculturists were urged to increase the planting of beans as an exportable product. Labor difficulties were settled according to the labor law. The Rockefeller Foundation and the local sanitary inspector inspected for mosquito-breeding places. Fines were imposed upon those who did not carry out the rules for sanitation.

ROADS.—During the months of August and September throughout the State of El Salvador approximately 12,154 square meters of macadam were laid, 4,099 square meters of new roads built, and 36,017 square meters repaired.

EXHIBIT OF SAMPLES.—The Honduran Chamber of Commerce is to establish in Tegucigalpa a permanent exhibition of samples, sent as a result of the visit of Dr. Marco Del Morales to the United States.

CENTRAL AMERICAN CHAMBER OF COMMERCE.—The Central American Chamber of Commerce of New York has been formed by the countries of Central America. Last August the five consuls from these countries stationed in New York met to form the plans for such a chamber as has been created. Each consul proposed two citizens of his country residing in New York and doing business in that city, and two American business men residing in Central America. This chamber will endeavor to foster trade between Central America and the United States and to cooperate with local chambers of commerce in the arbitration of shipping and other difficulties.

OIL CONCESSION.—The Ministry of Promotion of Salvador has granted a petroleum exploration concession of 3,990 hectares to the owner of an hacienda in the jurisdiction of Metapán.

INTERURBAN AUTO SERVICE.—The automobile service between the Salvadorean cities of Santa Ana and Ahuachapán has been resumed.

URUGUAY.

ROAD.—The road from La Tablada to El Cerro will be constructed at a cost of 200,000 pesos, to be covered by an issue of bonds at 6½ per cent.

PORT WORKS.—The sum of 142,833 pesos has been appropriated for port works at La Palma, including the construction of the viaduct, the prolongation of the wharf, and other incidental expenses. A permanent dredging service will be maintained in the harbor. Trees costing 20,000 pesos will be planted to form a park on Government land near the shore.

STEAMER BETWEEN MONTEVIDEO AND BUENOS AIRES.—A steamer making three round trips a week, at a moderate charge for passage, has been put into service between Montevideo and Buenos Aires.

CANNING FACTORY.—In accordance with the laws granting exemption from duties on all machinery destined for industries dependent on agriculture, the proprietor of a factory for canning peaches in Carmelo was allowed free entry for fruit-peeling and steam canning machinery.

STEEL PLANT.—The first steel plant in the Republic has lately been established by a company whose representatives had given careful study to model establishments in Cleveland and Chicago. The converter has a capacity of a ton and may be used 24 times a day. Fifty men are employed.

AGRICULTURAL AND INDUSTRIAL EXPOSITION.—The exposition held last fall in Durazno included, in addition to the usual agricultural and stock exhibits, a display of products of national industry. These were a revelation to many who had previously thought such articles imported. Among the exhibits were valuable and artistic jewelry, nicked utensils, brass beds, native furs made up attractively, fine cabinet work, motors and agricultural tools, chemicals, cloth, cotton and woolen knitted goods, toys, china, hats, hand baggage, wine, preserves, and many other articles.

DAIRY COW REGISTRY.—The Rural Association will establish a dairy-cow registry, which is expected to prove as beneficial to that industry in Uruguay as it has in other countries.

VENEZUELA.

NEW TELEGRAPHIC STATION.—The telegraph office at El Amparo, in the State of Apure, has been officially opened. It is the terminus of the line which extends to the Colombian frontier, passing through Valencia, Acarigua, Guanare, Nutrias, Bruzual, Palmarito, and Guasdalito.

NEW ROAD.—The executive of Bolívar district has ordered the construction of a road between Ciudad Bolívar, Cabimas, and Lagu-

nilla. The road will be 6 meters wide and will be constructed according to the latest advances in scientific road building, with all the necessary viaducts and bridges. A special commission has been appointed to take charge of the whole project.

ECONOMIC AND FINANCIAL AFFAIRS

ARGENTINA.

BUDGET.—The budget law for 1920 was declared by Congress to be effective also for 1921, with changes in the allotments for Congress, War Department, public works, and subsidies, as follows: Congress, 5,726,780 pesos national currency; Interior, 59,479,426.52; foreign relations and worship, 4,941,074.01; Treasury, 18,246,600; public debt, 124,306,484.94; justice and public instruction, 88,280,385.48; war, 44,145,357.56; navy, 36,459,117.45; agriculture, 10,515,860; public works, 14,364,835; pensions, longevity, and retired pay, 17,641,284.72; public works (in bonds), 55,436,600; articles 5 and 6 of the present law (which provide for four months' salary increases), 18,612,800; subsidies, 14,753,470, giving a total of 457,473,475.68 national currency in cash and 55,436,600 in bonds. Article 3 of the budget fixes the appropriation for charity and subsidies as 14,753,470 pesos.

SHORT TERM TREASURY NOTES.—The Minister of the Treasury has arranged with the banks of the capital to renew for 180 days at 6 per cent interest 2,500,000 pesos of the Treasury notes.

BRAZIL.

SUPERVISION OF BANKS.—The following quotas for expenses of bank supervision were paid into the collector's office of the Federal District: Milreis 7,083.33, by the Agencia Financial de Portugal; milreis 3,544.16, by the Banco de Petropolis; milreis 354.16, by the Sociedade Cooperativa Popular de Credito; milreis 1,305.54, by the Canadian Bank of Commerce; milreis 7,083,333, by the Banco do Rio de Janeiro; milreis 1,062,500, by the Sociedade Anonyma Cooperativa Auxiliadora; milreis 5,833,333, by the Sociedade Popular Brasileira; milreis 1,062,500, by the Sociedade Anonyma Cooperativa Economica.

COLOMBIA.

LOAN.—The Government has obtained a loan for £80,000 from an English firm. Half will be used for the service of the foreign debt and the remainder for other urgent expenses.

CUBA.

INTEREST ON LOAN.—The Executive authorized in December the payment through the Banco del Comercio of the sum of \$650,000, interest and amortization on the loan made by the United States to Cuba during the Great War.

TREASURY COLLECTIONS.—The undersecretary of finance has reported the amounts collected for revenues and taxes from May to November, 1921. The total is \$35,899,975.06, divided as follows: May, \$6,449,737.27; June, \$5,451,575; July, \$5,517,718.98; August, \$5,361,587.94; September, \$4,630,486.24; October, \$4,199,417.13; and November, \$4,289,452.50.

DOMINICAN REPUBLIC.

REDEMPTION OF BONDS.—264 bonds of \$500 each, Series D, issue of 1918, were designated by lot for redemption on January 1, 1922.

REMISSION OF SURTAXES—See page 297.

ECUADOR.

INCOME TAX DECREE.—A legislative decree imposes an income tax on individuals, agencies, banks or business, including foreigners with capital invested in Ecuador, or those who have lived in the country for over three months. Such persons must make an income tax return on an amount not less than 4 per cent of their capital. The executive will fix the rate of the tax within the following minima and maxima:

	Per cent.
1,000 to 2,000 sucres.....	$\frac{1}{8}$ to $\frac{1}{2}$
2,001 to 3,000 sucres.....	$\frac{1}{4}$ to $\frac{3}{4}$
3,001 to 4,000 sucres.....	$\frac{1}{2}$ to 1
4,001 to 5,000 sucres.....	$\frac{3}{4}$ to $1\frac{1}{2}$
5,001 to 7,000 sucres.....	1 to 2
7,001 to 10,000 sucres.....	$1\frac{1}{2}$ to $2\frac{1}{2}$
10,001 to 20,000 sucres.....	3 to 4
20,001 to 30,000 sucres.....	4 to 5
30,001 to 40,000 sucres.....	5 to 6
40,001 to 50,000 sucres.....	7 to 9
50,001 sucres and upwards.....	9 to 11
and 25 per cent additional for each 10,000 sucres or fraction thereof.	

Taxpayers having an annual income greater than 5,000 sucres will also pay a surtax, regulated as follows:

	Per cent.
5,001 to 7,000 sucres.....	$\frac{1}{2}$
7,001 to 10,000 sucres.....	1
10,001 to 20,000 sucres.....	$1\frac{1}{2}$
20,001 to 30,000 sucres.....	2
30,001 to 40,000 sucres.....	$2\frac{1}{2}$
40,000 sucres and upwards.....	3

URUGUAY.

BUDGET.—The budget of Government expenses in force to October 31, 1921, was extended to January 31, 1922, pending action on a new budget.

VENEZUELA.

SILVER COINS.—600,000 bolivars have been appropriated to cover the coinage of 6,000,000 bolivars in silver, authorized by a decree of April, 1921.

LEGISLATION

BOLIVIA.

ALCOHOL IMPORTS. In view of the large imports of alcohol in 1921, Congress desires to protect the national liquor manufactories and has therefore upheld the law of January 23, 1918, which nationalized the alcohol industry and forbade the importation of foreign alcohols and raw material for the distilling of spirits.

COLOMBIA.

CÚCUTA RAILROAD.—The sum of 5,000,000 pesos, at the rate of 1,000,000 pesos a year, has been appropriated from any funds accruing to the National Treasury during the next five years from sources distinct from the ordinary taxes, this amount to be used for constructing a railroad from the city of Cúcuta to the Magdalena River. The Government has been granted authority by the same law to raise a loan guaranteed by the appropriation and the income derived from the railroad.

WATER SERVICE.—Cartagena and other municipalities having ports open to foreign commerce have been empowered by a recent law to place a tax of 0.4 per cent on real estate in order to meet the payment on loans used for the development of the water system.

COSTA RICA.

FIRE INSURANCE DECREE.—On December 14 the President of the Republic issued a decree governing the issuance of fire insurance policies. It states that no policies will be issued without previous inspection by a Government insurance inspector. Three such inspectors will be appointed by the Government to appraise property. One will have charge of the fire insurance of real property in the

capital, one the supplies, furniture, and machinery of the business firms and industries in the capital, and the third will attend to insurance in the rest of the country. Persons desiring to insure property must present a list and inventory of the same which will then be checked by the Government investigator.

LEGISLATION ON MEDICINE AND HYGIENE.—Don Bienvenido Ortiz has recently completed a book containing a compilation of laws on medicine and hygiene from 1824 to 1921.

CUBA.

SUGAR FINANCE COMMISSION.—The President has issued a decree by virtue of which the Sugar Finance Commission, created by decree No. 155 of 1921, ceased on January 1, 1922, to exercise the powers granted to it for the sale and shipment of sugar produced from the 1919, 1920, and 1921 crops, with the exception of the sugar on shipboard in foreign ports or already contracted for shipment. Since January 1 owners of sugar remaining from the crops named have been able to dispose of it as desired, noting each sale as required by law and reporting it to the Sugar Finance Commission.

DOMINICAN REPUBLIC.

WATER RIGHTS.—Executive order No. 318, the law for the conservation and distribution of water in arid regions, is amended by Executive order No. 689 as follows: Public water rights granted under this law for agricultural purposes must be obtained from the Department of Agriculture and Immigration by the owners of the land or in his name or, in case of a concession, by the concessionary. When water rights for a certain parcel of land are once obtained, they shall in the future be inseparable from that parcel except when transferred by the department for good, sufficient, and equitable reasons. A transfer may be made only in favor of other land held by the owner of the water rights. If water rights are not properly made use of for seven consecutive years, the rights may be declared void on the recommendation of the central Government.

REMISSION OF SURTAXES.—Article 44 of Executive order No. 282 provided for certain surtaxes on delinquent property taxes. Executive order No. 692 of December 6, 1921, authorized the national treasurer to remit or make reimbursement of half the surtaxes for the fiscal year 1921-22, which were paid on or before December 31, 1921, and appropriated \$15,000 for the purpose.

ECUADOR.

HYDROCARBON DEPOSITS LAW.—The law defines as hydrocarbons all formations and subterranean deposits of mineral oils, natural

gases, bitumen, asphalt, wax, and other derivatives of petroleum. The State reserves the ownership of all hydrocarbon fields or deposits, conceding them only as leased for a period not to exceed 20 years with the privilege of 10 years' extension. Each concessionary must pay a tax of 5-12 per cent of the gross product, according to the zone of production. The payment is to be made in the product at the well or in money, as may be decided by the President. In case of money payment the rate will be based on the prices of the New York and London markets, less the transportation costs. The royalty to be fixed according to the previous bases will go up one unit each 10 years, but not to exceed the maximum. In addition to the previous tax each holder of hydrocarbon concessions, or unoccupied land, will pay an advance annual land tax per square hectare: 20 centavos the first year, 40 the second, 80 the third, and from the fourth year to the end of the contract, 1 sucre per hectare. This tax gives not only the right to exploration of land but the use of water, wood, and other construction materials.

One provision of the law states that not over 5,000 hectares nor less than 500 in each canton may be given to one person or corporation. The issuance of several concessions in different cantons of one province to the same lessee may not exceed 15,000 hectares . . . Persons seeking concessions must furnish the bond required by law and prove their technical and financial ability. The bond shall amount to 1,000 to 5,000 sucres with 100 sucres extra for each 100 hectares in the concession. . . . If exploitation is not begun within four years after the concession is granted, the latter will be withdrawn. The prices for which the products resulting from exploitation are sold shall be approved by the Government, leaving to the lessee a moderate but reasonable profit.

The beds of hydrocarbons in the oriental region of the Republic are excepted from this law and are governed by a special decree issued in 1920. Hydrocarbon concessions to contractors for public works in Esmeraldas Province may also be made.

MEXICO.

REMOVAL OF PRESIDENTIAL POWER.—Under date of December 9, 1921, a legislative decree signed by the President retracts the power of approving the annual budget which was given to the Executive by the 27th Legislature.

PRACTICE OF MEDICINE IN SONORA.—A recent law regulates the practice of medicine and similar professions in Sonora. To practice medicine, surgery, obstetrics, odontology, or pharmacy it is necessary to have a professional degree legally authorized. If an applicant does not hold a degree issued by a professional school of the Republic, by an approved foreign university, or by a foreign political authority

which reciprocally recognizes Sonora permits, an examination by a board named by the Government will be necessary. Sixty days' time was allowed for registering titles in order that their validity might be determined.

NICARAGUA.

PROJECTED LEGISLATION.—A manufacturer has arrived in Managua to submit to Congress a contract for the production of cloth and blankets such as are made in Mexico. If successful in introducing his machinery from Mexico, he intends later to start a hat factory, a brewery, and a steam laundry. The representative of an American wireless company is also to present a contract for the consideration of Congress. The company wishes to establish wireless stations in Managua, Bluefields, and Cabo de Gracias a Dios. A labor law is to be discussed which will include accidents, hours of the working day, and the wages of laborers and artisans. A projected petroleum law with features suggested by the Nicaraguan consul in Tampico will also come under discussion.

PARAGUAY.

CLASSIFICATION AND TENURE OF TEACHERS.—The law on this subject, No. 522 of 1921, provides that: Article 1. Primary public school teachers shall be divided into four classes—normal professors, normal teachers, elementary normal teachers, and teachers. The first three classes are composed of those with diplomas from the corresponding institutions, and the last mentioned lack professional titles. Article 2. Primary administrative officers and teachers may not be discharged as long as they conduct themselves properly, nor may they be transferred by the Directorate General without the permission of the National Council of Education. The regulations will determine measures to be taken in case of neglect of duty. Article 3. Promotion will be strictly according to professional rating, length and record of service. Article 4. Teachers' salaries are to be calculated according to professional standing, length and record of service on the following basis: First class, normal professors, 2,000 pesos; second class, normal teachers, 1,000 pesos; third class, normal elementary teachers, 800 pesos; and fourth class, teachers without titles, 400 pesos. Article 5. Salaries thus established are to be paid to teachers whatever their post, unless it be that of a professional chair which will be included in the corresponding budget. The President will fix, in accordance with the budget, travel pay, excess pay, and increases for special offices. Article 6. No teacher may occupy two posts of the same rating except when there is no one to fill the vacancy. In such a case the teacher will receive 50 per cent excess pay. Article 7. Normal teachers who have served

as directors of primary schools for 10 years, during 5 years of which the schools were graded, will be promoted to the rank of normal professor; also those who have shown extraordinary aptitude and good character. . . . Article 8. Untitled teachers will be made elementary normal teachers if they pass the examinations of the National Council of Education. . . . Article 9. Teachers without a title with less than 5 years' service may at any time be replaced by teachers with a title if their transfer to another place is not possible. . . . Article 10. All teachers titled or promoted to such rating have a right to a $2\frac{1}{2}$ per cent increase of salary every 5 years up to 20 years if they have satisfactorily fulfilled their duties. The remaining articles of this law cover the rules for pensions, school management and inspection, and other related matters.

REGIONAL EDUCATION COUNCIL.—The latest law on this subject provides that the regional education councils shall be directly dependent upon the National Council of Education. The primary schools shall be dependent upon the regional councils of the district in which they are listed, but not the normal schools, which are dependent upon the National Education Council.

Each regional council of education is to be composed of a president, two members, and a secretary, the first three appointed by the President of the Republic upon the recommendation of the National Council of Education, while the secretary is the appointee of the National Council of Education. The members' term of office is one year, after which they are eligible for reelection. A member must be a resident of the vicinity, qualified by character and education, and should preferably be a professional man.

Regional councils of education have the following duties: To see to the fulfillment of education laws, regulations, and orders; to watch the progress of schools; to keep the statistics of the schools and matters thereto appertaining; to pay salaries, as the money is received; to advance in every possible way the progress of popular education as to instruction, improvements in the corps of teachers, foundation of libraries, and holding of conferences; and to perform other similar functions.

The president of the regional council of schools is the director general for the schools of his region and holds office four years. The regional director of schools is to represent the regional council in public acts before public authorities and educational authorities; authorize payments, accounts, and reports; oversee the inspection of schools; make a personal inspection at least once a year and report to the general directorate of schools; and go to the capital personally each January to report and receive instructions for the new year.

Each regional council is to have a number of inspectors determined annually by the National Council of Education, who are to be located

in the district, under the orders of the regional council and of the regional director.

MILITARY SCHOOL FOR APPRENTICES.—The military school for apprentices has been organized by Decree No. 13899 to train boys younger than 10 years and not older than 20 to become military artisans. Boys who enter must be recommended by the General Protectorate of Minors and must have lost father and mother, have a health certificate, a vaccination certificate, and a letter from the establishment where they have passed the two previous years. The studies are in part theoretical and in part practical—Arithmetic, Spanish, geography and national history, civics, theoretical military instruction and gymnastics, elementary geometry, physiology and hygiene, music, singing, and drawing, carpentry and furniture making, naval construction, general mechanics, tanning, shoe making, and tailoring. Graduates of the school who have not remained the 10 years in the school required of entrants under 15 may work outside in shops by paying part of their wages into the savings department and part into the school treasury for board and lodging, and thus continue under the tutelage of the school. Students over 15 at entrance are to remain in the school for five years. Graduates are given a certificate of professional competency.

PERU.

WATER AND DRAINAGE SYSTEMS.—All projects for providing cities or towns with drinking water, sewage and drainage systems, and for garbage disposal must, according to a recent decree, be submitted for approval to the Public Health Bureau, since they vitally affect the health of the nation.

AGRICULTURAL LABORERS.—The agricultural laborers of the Peruvian valleys have been asking for an arrangement which would assure them higher wages and more permanent employment. In connection with the former question, the Minister of Promotion is considering a minimum wage scale for each valley, based on the cost of living and subject to an increase in relation to the sale price of exported products.

Both wages and employment are considered in a decree of December 7, 1921, which applies to the agricultural laborers of the Chicama and Santa Catalina valleys of Trujillo Province. Some of the most interesting provisions follow:

The length of a working day shall be eight hours, in conformity with the decree of January 15, 1919, and any agreement for a longer working day, which may in no case exceed 12 hours, must be referred for approval to the Labor Inspection Commission.

Cutting and loading sugar cane shall be paid for according to the weight of the amount cut or loaded. Other work in the field shall be gauged by the work done by an average laborer in 8 hours.

In case of illness proved by a medical certificate the laborer has a right to receive half his wages, plus the food ration usually given him. If he has no family and is treated in a hospital, the food ration need not be given.

If for any reason there is an oversupply of laborers, those who are dismissed on that account will receive two months' wages if they have worked more than six months, and one month's wages if they have worked more than two months and less than six. This provision may be modified in the light of the information received by the Labor Inspection Commission.

The decree also provides for Government bank inspection of savings and mutual benefit societies, sanitary and educational inspection, the cessation of contract labor, new telegraph and post offices, and the creation of the Labor Inspection Commission already mentioned, which is to consist of a Government delegate, an estate owner, and a bona fide laborer. The duties of this commission are important as showing the existence and trend of labor legislation: To see that the regulations of the present decree are strictly complied with; to intervene in and to terminate, in accordance with existing regulations, disagreements between employees and laborers; to watch the observance of the laws regarding labor accidents, work of women and children, weekly rest period (when the Sunday rest period is not given), housing, medical attention, schools for laborers, and all labor laws and decrees now in force or promulgated in the future; and to propose to the Ministry of Promotion the means which experience may suggest for effecting permanent harmony between employers and laborers.

URUGUAY.

PROMOTION OF NATIONAL INDUSTRIES.—A law of December 2, 1921, offers a monopoly of manufacture for nine years to those who establish or reestablish any industry using national raw materials or the residue or waste of industries already functioning, whether their raw material is native or imported. This monopoly will not be granted for the production of articles of food for persons or animals, unless the concessionaries are the discoverers of the product.

SANITARY PORT REGULATIONS.—The National Council of Hygiene has established specific rules for the docking of steamers. Those which have on board or have had during the passage cases of cholera, bubonic plague, yellow fever, or typhus must cast anchor at the Flores Sanitary Station. Other regulations are established for less dangerous diseases, and a fine is provided for infringement of the provisions.

SALE OF DRUGS.—A recent official resolution, sponsored by the National Hygiene Council, provides that all those dealing in cocaine and opium or its derivatives must keep a record of receipts and sales of those drugs, inspected by the pharmacy bureau. Physicians, veterinarians, and dentists are forbidden to prescribe them in quantities exceeding the maximum dose. Patent or proprietary medicines

containing the drugs in question must bear a label indicating the quality and quantity of their ingredients.

VENEZUELA.

HYDROCARBON LAW.—Congress passed in July of last year a law regarding hydrocarbons. It covers in detail all the points related to exploration for and exploitation of deposits of hydrocarbons.

EDUCATION LAW.—The main provisions of the new education law are as follows: Any competent person in full enjoyment of his civil rights may found schools for any branch of learning without obtaining a license or being subject to official regulations, programs, methods, or texts. The law recognizes the following divisions of instruction: Subprimary; primary, divided into elementary and advanced; secondary, which complements the primary and prepares for higher advanced studies; normal, elementary, and advanced; higher education, including medicine, political science, theology, physics, mathematics, and biological science, and philosophy and letters; special education, including agriculture, industries, trades, and other similar branches; and physical training. It is hoped that the subprimary schools (*escuelas maternas*), which include day nurseries and kindergartens, and the work in physical education will aid materially in reducing infant mortality.

Elementary primary education is obligatory for all children between 7 and 14 years of age, and physical training for all students under 21.

The second section of the law refers to legal degrees and certificates, and the others to official instruction, the National Council of Instruction, and other important subjects.



INTERNATIONAL TREATIES

PARAGUAY-UNITED STATES.

COMMERCIAL TRAVELERS' CONVENTION.—By Law 521 the Government of Paraguay approved the Commercial Travelers' Convention signed in Washington, D. C., October 20, 1919, by the diplomatic representative of Paraguay, Don Manuel Gondra, and the Secretary of State of the United States, Mr. Robert Lansing.

VENEZUELA.

INTERNATIONAL WIRELESS CONVENTION.—Congress has approved the participation of Venezuela in the International Wireless Convention signed in London July 5, 1912.

PUBLIC INSTRUCTION AND EDUCATION

ARGENTINA.

COMMENCEMENT EXHIBITIONS.—Exhibitions of handwork were held in many schools before they closed in December for the summer vacation. That in the Paraná Domestic Science School contained an interesting collection of machine drawn work, woven hats, dress-making, tailoring, cooking, fine laundry, and other specialties.

In Jujuy the weaving of the Academy Sarmiento pupils and the woolen cloth and dyes attracted much favorable attention. The designs are mostly Incaic in character.

The National Vocational School in Chivilcoy showed examples of carpentry, foundry work, and tool making.

BOLIVIA.

NEW FREE SCHOOL.—A number of normal graduates who have held important posts as teachers have recently formed a new free school. In the morning session arithmetic, reading, writing, composition, metric system, and geometry are taught, and in the afternoon session history, geography, and various forms of outdoor and indoor physical culture and sports. It will be the endeavor of the school to give a well-balanced education, developing the civic, moral, and esthetic sense of the pupils as well as their intellectual life.

CHANGES IN PRIMARY EDUCATION.—The Government has ruled that manual training shall be taught in all the primary schools of the capitals of departments. The manual-training course begins in the fourth year.

COLOMBIA.

SCHOOL IN THE SIERRA NEVADA.—A number of parents have subscribed \$15,000 for the foundation of a school in the Sierra Nevada, near Córdoba, in the department of the Magdalena. The school will be situated at an altitude of 1,400 meters above sea level, where there is an average temperature of 18° C. Boys from 14 to 15 years of age will be received, and the faculty will be carefully selected. The excellent climate and the healthfulness and beauty of the location will contribute to the success of this modern high school.

COSTA RICA.

DIPLOMAS FOR NORMAL STUDENTS.—The President of the Republic has issued a proclamation stating the requirements for diplomas as

normal teachers. In the future no teacher's diploma will be registered in the office of primary education unless accompanied by a certificate showing the personal and professional qualifications of the normal school graduate. Among the points on which information is asked are academic and pedagogical training, practice teaching, and the interest of the applicant in child life and problems. For the present year the data obtained from the school records will suffice.

CLOSING EXHIBITION.—The girls of the Heredia Normal School held an exhibition of their manual work done during the year. The sum of 3.349 colones was earned by the sale of articles.

DOMINICAN REPUBLIC.

INCREASE IN LOCAL BUDGETS.—As the 15 per cent of the general receipts for the commune of Los Llanos, allotted by law to public instruction, amounts to \$5,371.86 more than the sum estimated in the budget, the surplus will be spent as follows: Furniture, \$700; supplies, \$371.86; freight and cartage, \$100; construction and repairs, \$4,000; and school equipment, \$200.

The commune of Hato Mayo also has a surplus, which in its case amounts to \$1,961.42; the money will be spent for similar purposes, including agricultural tools.

ANOTHER SCHOOL OF COMMERCE.—A school of commerce will be established in San Pedro de Macorís under private auspices. The new school in Santiago was mentioned in last month's BULLETIN.

ECUADOR.

FOURTH STUDENTS' CONGRESS.—The Fourth Congress of Students of La Gran Colombia (Colombia, Ecuador, and Venezuela) will meet in Quito in May, 1922, at the time of the celebration of the one-hundredth anniversary of the battle of Pichincha. The topics laid down for discussion include the following: Program of university students regarding the theory and practice of the State concerning property, taking into consideration the world socialist movement; part to be taken in encouraging immigration; university action tending to unify labor legislation in the three countries represented; establishment of medical schools; legislative measures for the standardization of rules concerning mutual recognition of academic titles; reform in the methods of teaching natural sciences and mathematics, with their practical applications; reform in the teaching of law; and the importance of establishing a federation of students of La Gran Colombia in order to unify the social, political, and economic action of the university students of the three countries.

EDUCATION SYSTEM.—There are three normal schools in Ecuador. The Juan Montalvo Normal Institute at Quito is for young men, and the Manuela Cañizares Normal Institute in the same city, and the

Rita Lecumberry Normal Institute in Guayaquil, for girls. Schools giving special instruction are: The Vocational Schools of Quito, Tulcan, and Portoviejo, and the Pedro Carbo Commercial High School of Bahía de Caráquez. The Vocational School of Quito offers courses in typography, binding, photogravure, carriage manufacture, carpentry, mechanics, shoemaking, saddlery, tailoring, engraving, tanning, and ceramic work. The name, location, and attendance of schools of secondary and advanced education are given below:

Cities.	Name of school.	Attendance.
Tulcan.....	Bolívar.....	33
Ibarra.....	Teodoro Gómez de la Barra.....	50
Quito.....	Mejía.....	280
Latacunga.....	Vicente León.....	76
Ambato.....	Bolívar.....	62
Riobamba.....	Maldonado.....	120
Guaranda.....	Pedro Carbo.....	67
Azogues.....	Juan B. Vásquez.....	48
Cuenca.....	Benigno Malo.....	225
Loja.....	Bernardo Valdivieso.....	124
Machala.....	Nueva de Octubre.....	61
Babahoyo.....	Eugenio Espejo.....	60
Portoviejo.....	Olmedo.....	48
Guayaquil.....	Vicente Rocafuerte.....	385
Total.....		1,639

There are three universities: The Central University at Quito, the University of Guayas at Guayaquil, and the University of Azuay at Cuenca. There is also a University Junta at Loja. The students in the universities and the university Junta of Loja are taking the following courses: Law, 297; medicine, 261; science, 69; pharmacy, 46; dentistry, 37; obstetrics, 23; nursing, 11; total, 744.

The State supports university instruction by an annual subsidy of 80,000 sucres, which, added to the other revenue assigned to this branch, amounts to a total of 641,335.57 sucres. There is also a fine national library and an astronomical laboratory, which is well equipped.

HATTI.

COURSES OF STUDY.—The *Moniteur* of December 3, 10, and 14, 1921, publishes the courses of study for the trade and domestic science school for girls. The subjects of the housekeeping course include clothing, laundry work, foods and nutrition, adulteration of foods, theoretical and practical cookery, table service, and household accounts. In the *Moniteur* of December 21, 1921, is given the course of study for Section C, Latin-scientific, of the private secondary schools.

MEXICO.

PROGRESS IN EDUCATION.—In the January number of the *BULLETIN* was given a brief outline of the plans of the department of education for 1922. One of its chief aims is the eradication of illiteracy; in this

cause many volunteer teachers are enlisted, while the work is being prosecuted by other means as well. A popular center in a crowded district of Mexico City is meeting with great success in this direction. A new school is to be built early in 1922 on the common land returned to each town of the Federal district so that the children of the rural sections may receive instruction in the daytime and their parents in the evening.

The schools of Mexico City have been taken over by the Federal department. A vocational school, which will also offer a home to orphans, was opened in Pachuca on New Year's Day. Every boy has his choice of becoming skilled as a carpenter, ironworker, electrician, automobile repair man, garage foreman, machinist, tailor, baker, printer, or shoemaker. All the equipment necessary for a large modern shoeshop was ordered from the United States.

Higher education as well is receiving attention. New universities are to be established in three places—Pachuca, State of Hidalgo, Mérida, State of Yucatán, and Culiacán, State of Sinaloa. In connection with the last there will be a museum, to which the National School of Fine Arts has sent a collection of pictures and the National Archeological Museum some casts of primitive Mexican monuments. The Department of Education will provide a good library.

PARAGUAY.

MEDICAL PROFESSOR.—The Paraguayan Government has engaged Prof. André, of France, to teach in the school of medicine for three years, beginning March, 1922.

PHYSICAL CULTURE.—The physical culture section of the Paraguayan Institute is preparing a physical culture program in which a swimming contest is to be featured. Under the direction and patronage of the Paraguayan Institute the physical culture idea is being spread through the schools and is tending to produce young citizens with properly developed bodies.

CLASSIFICATION AND TENURE OF TEACHERS.—See page 299.

REGIONAL EDUCATION COUNCILS.—See page 300.

MILITARY SCHOOL FOR APPRENTICES.—See page 301.

PERU.

POPULAR EDUCATION.—Under the name of Universidad Popular the students of the University of Lima are conducting classes and lectures for workmen in that city and near-by towns, as has already been mentioned in the BULLETIN. Some of the recent lectures have covered the subjects of dental hygiene, the effects of alcohol on normal and diseased organisms, the necessity of oxygen for good health, with illustrative experiments, and practical anatomy, with first-aid instruc-

tions in case of fractures. A campaign of typhoid prevention is also being waged by means of printed leaflets. A musical program is usually given at the close of the lecture.

In Trujillo the Students' and Laborers' League has started a free "Academia Popular," which opened with the following courses: Spanish, practical arithmetic, ethics and civics, constitution of Peru, labor legislation, practical geometry, and mechanical drawing.

SCHOOL FOR NURSES.—Since 1917 the Lima school for men and women nurses in connection with the Dos de Mayo and Santa Ana hospitals and the Victor Larco Herrera Asylum has been granting diplomas to those completing the course and passing the examination. Of the 25 graduates 16 are employed by the Public Charity Society of Lima and 9 in private hospitals and clinics.

REPUBLIC OF CENTRAL AMERICA.

PRIVATE COMMERCIAL SCHOOL.—A new private school of commerce has been opened in Guatemala City with the following curriculum: First year, Spanish grammar, practical arithmetic, first-year English, instruction in civics, correspondence, and typing; second year, commercial geography, commercial arithmetic, second-year English, first-year French, bookkeeping; third year, commercial arithmetic, third-year English, second-year French, mercantile and international law, Government military accounting and financial law; fourth year, fourth-year English, third-year French, political economy and finance, stenography and typewriting, and bank, agricultural, and mercantile accounting.

FINAL EXAMINATIONS OF AGRICULTURAL SCHOOL.—The School of Agriculture of Guatemala held its final examinations December 16 and 17. As part of the closing exercises of the school year it gave an exhibition of the farm machinery in use and held an inspection of the plots cultivated by the students.

NEW SCHOOLS IN HONDURAS.—A new private school for young ladies is to be opened in the town of Santa Ana during the present year. In Ocotepeque a board of education has been organized to establish a school of secondary instruction for the whole department. *Atlántida*, a paper of La Ceiba, has opened a campaign for a normal school to be located in the northern coast region so that teachers may be trained for that part of the Republic.

BOYS' SCHOOL.—A parents' committee in Sonsonate, Salvador, has decided to establish a primary and secondary school for boys, both boarding and day pupils.

GIRLS' VOCATIONAL SCHOOL EXHIBITION.—An exhibition of the work of the girls' vocational school in San Salvador was held on November 30, 1921. The exhibits filled three rooms and included painting,

modeling, artificial flowers, hand and machine embroideries, cutting and dressmaking, straw and fancy hats, bookbinding, drawing, and other articles.

URUGUAY.

GOVERNMENT DEPARTMENT SCHOOLS.—The Navy has started a school for mechanics at the national dry dock.

A school has been opened by the Interior Department for members of the police force desiring to become civil guards. It is hoped later to add preliminary courses for those who wish to enter the police service.

INDUSTRIAL SCHOOLS.—Readers of the BULLETIN will recall the progressive industrial schools of Uruguay partially described in the February number. Recognizing their usefulness, the Government has appropriated 80,000 pesos for new schools of this type to be founded in 1922.



ARGENTINA.

FIRST GIRLS' CAMP.—In February the first girls' camp for the Y. W. C. A. of Buenos Aires was opened in Adela. A party went off provided with all the necessities, including gymnasium and bathing suits, to enjoy for the first time the freedom of "camping out." Volley ball, basket ball, baseball, swimming, and rowing were popular sports. After evenings spent around the glowing camp fire, the girls slept soundly in their tents under the eucalyptus trees.

MATERNITY WARD.—A maternity ward built as a memorial to Doña Sara de la Serna by her husband, Sr. Pedro Gandulfo, has been added to the Hospital Luisa C. de Gandulfo in Lomas de Zamora. The new ward has most cheerful surroundings and coloring as its red tile roof contrasts with the greens of the surrounding gardens.

RADIUM FOR BUENOS AIRES HOSPITAL.—Dr. Pedro Jáuregui has secured in Paris for Don Manuel Escasany 200 milligrams of radium for the Spanish Hospital in Buenos Aires.

MATERNITY WARD FOR TUBERCULAR PATIENTS.—A new maternity ward for tubercular patients has been opened in the Hospital Vicente López y Planes. There are 32 beds in a two-story building with steam heat and electric lights, operation rooms, sterilization room, nursery, consultation rooms, dispensary, and all the improvements

of a modern hospital. This is the first ward for tubercular mothers in the country and now such sufferers as formerly could not find proper hospital care on account of having this contagious disease will have the necessary attention.

SOCIETY FOR PROTECTION OF INFANCY.—It has been decided to build at a cost of 300,000 pesos an annex to the Asylum Teodelina Alvear de Lezica of the Society for the Protection of Infancy.

CHILE.

CHILEAN LEAGUE FOR SOCIAL HYGIENE.—Last November this society, whose purpose is the moral, social, and scientific improvement of the race, laid the cornerstone for its first polyclinic. In the pursuit of its purposes the society hopes to make use of all the resources of science for prevention and cure, prophylaxis against infection, isolation to prevent further propagation, destruction of the foci of infection, opportunity for a complete cure, scientific, hygienic, and moral propaganda, and counsel and help towards regeneration based on the most modern physiological, psychological, and social principles. The league utilizes in the accomplishment of its purpose all the individual and social dynamic forces—science, religion, family sentiment, public authority, capital, and labor.

MINERS' WELFARE.—The *Mercurio de Santiago* in one of its recent numbers gave an account of the provision made by a copper mining company, "El Teniente," for the recreation and general social welfare of the miners. Comfortable assembly rooms are open Thursdays and Sundays. They are supplied with player pianos, libraries, and canteens serving soft drinks. The men have "estudiantinas," or musical clubs, which both play and sing. Moving pictures are offered at low prices. A large gymnasium offers an opportunity for boxing and other indoor sports, while tennis courts and football grounds are provided outside.

The company intends to construct an industrial school in which the miners' children may be prepared for work in the mines as mechanics, electricians, boiler makers, or laborers skilled in other trades.

The company maintains other institutions beneficial to the miners, such as the hospital, which is provided with an excellent laboratory, an X-ray machine, and an operating room, and the store in which every sort of merchandise is sold at a charge of 10 per cent over wholesale prices.

In the zone in which the mine is situated the sale of alcoholic beverages is absolutely forbidden. Guards are employed at a cost of 50,000 pesos a year to prevent the introduction of liquor.

WELFARE DEPARTMENT.—The boards of directors of the Mortgage Bank, the Santiago Savings Bank, and the National Savings Bank have formed a welfare department for the employees of those institu-

tions. This department is divided into three parts—pensions, savings, and life insurance. The last will be obligatory for all employees under 50 years of age. The amount of the policy will not be less than a year's salary nor greater than 50,000 pesos.

INSTITUTO SANITAS.—This is the name of a modern clinic in Santiago, one of the largest and best in South America. It makes a specialty of radiotherapy, for which it is equipped with apparatus of 200,000 volts.

COLOMBIA.

MODERN HOSPITAL.—A group of distinguished Colombian physicians has recently established in Barranquilla a modern hospital, which is considered one of the most complete in the country. Operations are performed by surgeons who are graduates of Colombian or United States universities. The clinic has a complete modern outfit, including X-ray and bacteriological sections and a ward for the treatment of contagious diseases. There are rooms for 25 patients, each room being supplied with running water and electric bells and fans; the whole building is carefully screened. Graduate nurses are in attendance.

COSTA RICA.

SCHOOL FOR NURSES.—The school for nurses founded in San José two years ago by Dr. Don Luciano Beeche, then president of the school of medicine, held its final examinations in December, graduating nine students as trained nurses.

THROAT CLINIC.—In the Hospital de San Juan de Dios, San José, a throat clinic has been installed. Free treatment is given to poor patients each week day.

LEGISLATION ON MEDICINE AND HYGIENE.—See page 297.

CUBA.

PRIZE BABIES.—Many Habana mothers brought their babies to take part in a baby contest held in December by the department of health and charity. Three special prizes were awarded by a commission of prominent physicians.

HOSPITAL OF THE CASTILIAN SOCIETY.—The Santa Teresa Hospital built by the members of the Castilian Society in Habana was opened the latter part of last year. There are wards for men and women, operating rooms, private rooms for surgical cases, rooms for the hospital staff, and a pharmacy. One of the modern conveniences of hospital installation is the red light at the door of each room which patients may turn on by a button at their bedside, thus summoning the nurse on duty.

FIFTH MEDICAL CONGRESS.—Among the important recommendations of the Fifth Cuban Medical Congress, whose triennial meeting

was mentioned in the last number of the BULLETIN, were the following: Enactment of a rest law for pregnant women and nursing mothers; the sending at public expense of professors from the school of medicine to the annual convention held by the medical colleges of the United States and Canada; creation of a school dental dispensary in each province; installation of a filter plant on the Almendares River to improve the Habana water supply; investigation of the academic preparation of physicians, pharmacists, dentists, and veterinarians; and the formation of a committee to work with the physicians of other countries for the organization of a convention of tropical American medicine. The next meeting of the Congress will be held in 1924.

ECUADOR.

GUAYAQUIL FREE FROM YELLOW FEVER.—For nearly three years Guayaquil has been free from yellow fever. The last case was in May, 1919. The record of cases for 1919 shows the progress made in the eradication of the disease which previously was a deadly scourge to this part of Ecuador. In 1918 there were 460 cases of yellow fever; in January, 1919, there were 85 cases of yellow fever; in February, 43 cases; in March, 17 cases; in April, 3 cases; and in May, 1 case, which marked the end. This remarkable change was brought about by the work of the Ecuadorean Board of Health in cooperation with the experts of the International Health Board of the Rockefeller Foundation, who are trying to eliminate yellow fever all over the world. A campaign of publicity was carried on to win the understanding and cooperation of the inhabitants in the elimination of the mosquito, and all water tanks, barrels, and other water containers were covered, or else stocked with fish to eat up the larvæ of the mosquito. Guayaquil now has no more mosquitos, and consequently no more yellow fever.

MEXICO.

HOME FOR GIRLS.—Girls who have been brought up in the Hospice of Mexico City, which cares for 1,500 destitute boys and girls, will be provided early this year with a home in which they can live after they have become self-supporting through a trade or occupation learned in the hospice.

DISTRIBUTION OF LABOR.—“Among the many benefits derived from the revolution,” says the monthly publication of the Bureau of Labor, “may be mentioned the awakening in rural and city laborers of the desire to leave their native places in search of better conditions of labor. Formerly workers systematically refused to leave their own countryside, and the lack of proper distribution of labor made the wage scales in the different States very unequal. . . . Labor

unions would perform a useful service if they would take upon themselves the duty of informing the laboring class in their respective localities of the true situation in labor centers, thus preventing the emigration of laborers when emigration presents no advantages The Bureau of Labor of the Department of Industry constantly collects information on labor supply and demand; these data are at the disposition of the public and of the labor unions."

LIBRARIES.—The library section of the Department of Public Education has sent out "minimum" libraries, selected according to the type of community which they are to serve, to 173 towns, distributed among 28 States and Territories. These libraries are indexed according to the Dewey system.

PLAYGROUND IN MEXICO CITY.—About 1,600 Mexican children are daily using the playground given last September to the Mexico City government as a centenary gift. The children are taken in parties of 400 at a time, two parties in the morning and two in the afternoon. and their play is directed by young Mexican volunteers who have been trained by the director of the playgrounds.

El Herald, one of the leading daily papers of Mexico City, in an editorial article says that nothing so useful has ever been done for the Mexican children as the opening of this playground, which cost altogether, to establish, equip, and maintain, 25,000 pesos. Most of this money was contributed by the members of the American colony in the City of Mexico; but members of the American Chamber of Commerce in the United States also sent gifts.

NICARAGUA.

TREATMENT OF SYPHILITIC CASES.—Two physicians have concluded a contract with the Government by which for one year they are to administer free to all persons unable to pay, injections of neo-salvarsan or its equivalent when medically prescribed, and also to give medical and surgical assistance to the police of Managua. All medicines except neo-salvarsan, which is paid for by the Government, will be furnished by the doctors, who are to receive 500 córdobas a month.

PARAGUAY.

CITY MILK INSPECTION.—The Municipal Chemical Office of Asunción has undertaken the inspection of milk sold in the city.

REPUBLIC OF CENTRAL AMERICA.

LABORERS' ASSOCIATION.—In Chocuteca, Honduras, a laborers' association has been formed under the name of "Liga de Obreros José Cecilio del Valle." It hopes to procure agricultural land for its members, and also to carry on classes and lectures for their mental and moral uplift.

SANITATION OFFICE WORK.—During November the sanitation inspectors of San Salvador visited 736 buildings, including houses, hotels, and public places, warning 80 proprietors for failure to comply with sanitary requirements, and filed 175 papers of cases completed in previous months. Twenty-five fines were imposed.

SALVADOREAN MUNICIPAL LIBRARIES.—The mayoralty of San Salvador plans to increase the number of books in the municipal and the children's libraries. Books which will cost 800 colones have been ordered from Spain.

URUGUAY.

INFANT WELFARE.—The National Council of Public Assistance has received an appropriation of 7,640 pesos a month for the organization and running expenses of the infant welfare service, including the wet-nurse registry, the maternity home at El Cerro, and the dispensary in Montevideo.

ANTITUBERCULOSIS LEAGUE.—The league has in Montevideo four dispensaries, a throat clinic, public baths, a sanatorium, an open-air school, five stations for the distribution of food, and a wagon for the house to house distribution of food. The league also contributes to various milk stations. In the country outside of Montevideo the league has 16 dispensaries and 2 sanatoriums, and provides milk for the children in 14 schools. The new dispensary in Flores was inaugurated last October.

WOMAN INSPECTOR.—A woman has been appointed by the bureau for the suppression of alcoholism to inspect places frequented by women and children.

INSTITUTE FOR THE PROPHYLAXIS OF SYPHILIS.—The institute has recently opened dispensaries in Mercedes, Fray Bentos, and Dolores, and will shortly inaugurate others in Colonia, Rosario, and Carmelo.

VENEZUELA.

CHILD WELFARE.—The Venezuelan Red Cross has recently started activities along the line of child welfare. It hopes to reduce infant mortality; to give prenatal instructions to mothers, so that children may be born strong and robust; to protect children of preschool age; and to carry on a campaign of information among all classes of society. Other institutions which are cooperating are the milk stations, the Children's Hospital, the Children's Protective Society, and the Red Cross School, where nurses are being prepared to carry practical child hygiene work into the home. It will be recalled that last month's *Bulletin* mentioned the initiation of a movement for united effort to promote child welfare.

A branch of the Children's Red Cross was started in Caracas last December.

GENERAL NOTES

BOLIVIA.

BOLIVIAN ALMANAC.—The *Almanaque Boliviano de La Ilustración* has lately been published. The volume contains 200 pages of interesting literature by some of the most important prose writers and poets of Bolivia.

BRAZIL.

LIGHTING OF THE CENTENNIAL GROUNDS.—It is reported that the General Electric Co., through its representatives in Brazil, has secured a contract for the installation of the services of illumination of the exposition of the Brazilian centenary. The work is estimated at \$1,000,000. Mr. Durant, manager of the General Electric Co. in the Western hemisphere, has asked Mr. W. D. O’Ryan to proceed to Brazil, accompanied by a chief engineer and a draftsman. Mr. O’Ryan directed the illumination services of the San Francisco Exposition, where he elaborated the plan for the famous illumination of the tower of jewels and other important displays. Mr. O’Ryan was also in charge of the illumination service of the Armament Conference at Washington.

COLOMBIA.

DOCTOR MAXIMILIANO GRILLO.—Dr. Grillo, an eminent writer of prose and poetry, has been appointed minister of Colombia in Brazil. He was formerly for some years minister in Bolivia. During his recent visit to Washington, Dr. Grillo called at the Pan American Building.

CENSUS.—The 1918 census, referred to in the last number of the *BULLETIN* as having been taken as the official basis for various computations, gives the population of the Republic as 6,295,491 inhabitants, an increase of 826,658 in six years.

CUBA.

REPORTERS’ CLUB.—The cornerstone of the Reporters’ Club in Habana was laid on January first. Within the stone were deposited copies of each paper published in the Cuban capital and other club records.

MEDICAL PRESS CONVENTION.—The fourth convention of the medical press of Cuba took place in December, 1921, just previous to the National Medical Congress. Many subjects of much interest were discussed.

DOMINICAN REPUBLIC.

PLUMBERS’ LICENSES.—No one not holding a plumber’s license issued after passing an examination given by the department of sani-

tation and charity is allowed to install plumbing in the district of Santiago.

NEW REVIEW.—Santo Domingo Gráfico is the name of a new illustrated review issued in the city of Santo Domingo.

ECUADOR.

TABLET TO GARCÍA MORENO.—On December 24, 1921, the centenary of the birth of Dr. Gabriel García Moreno, a bronze tablet to him was unveiled upon the house located where his birthplace formerly stood. The inscription was: "From a grateful nation to the greatest of her sons. This place was occupied by the house in which the great Magistrate, the honor of the nation, Gabriel García Moreno, was born, December 24, 1821. Erected by the García Moreno committee of this city (Guayaquil), December 24, 1921."

MEXICO.

DENTAL CONFERENCE.—The conference of dental surgeons met in Mexico City last December. More than 100 were in attendance. Three dental surgeons from the Kansas College of Dentistry gave highly instructive addresses on various aspects of their profession.

ETHNOLOGY.—A new hall of ethnology containing many exhibits of great interest has been opened in the National Museum.

NICARAGUA.

MEXICO GIVES LIBRARY.—The city of León has received the gift of a public library from the Government of Mexico, in memory of Benito Juárez.

PANAMA.

SAN BLAS IMPROVEMENTS.—Cacique Iñapaquiña, chief of the Tribe of Sasardi of San Blas, has asked the aid of the Panaman Government to obtain a good aqueduct and a sawmill. The Government has named an appointee to see that the request is granted.

THE BELLS OF NATÁ.—When the President visited the vocational school he saw the bells of the Church of Nata, which were to be recast and set. He decided to send them instead to the National Museum, as they date back to the colonial period, and have new ones made for the church by the vocational school at a cost of about \$600 to the Government.

PERU.

DEATH OF SUPREME COURT JUSTICES.—The death in December, 1921, of two justices of the Supreme Court, Dr. Mariano Nicolás Valcárcel and Dr. José Santos Morán, is deeply regretted. Both were men prominent in the service of their country.

URUGUAY.

FOUNDER OF LIBRARY.—On December 9, 1921, the National Library commemorated the 150th anniversary of the birth of Dámaso Antonio Larrañaga, organizer and first director of the public library of Montevideo.

SUBJECT MATTER OF CONSULAR REPORTS

REPORTS RECEIVED TO JANUARY 23, 1922.

Subject.	Date.	Author.
ARGENTINA.		
Cereal prices week ending Nov. 10, 1921.....	1921. Nov. 14	Raleigh A. Gibson, vice consul in charge, Buenos Aires.
Destination of Argentina's principal exports from Jan. 1 to Sept. 29, 1921.....	Nov. 14	Do.
"Review of the River Plate," Nov. 11, 1921, on the subject of "Disallowance of railroad tariff increases.".....	Nov. 14	Do.
BRAZIL.		
Public utilities concession obtainable in Maceio, State of Alagoas.....	Nov. 5	C. R. Cameron, consul at Pernambuco.
Report on cotton manufacturing industry of Pernambuco consular district.....	Nov. 7	Do.
Municipal homes for workingmen in Pernambuco.....	Nov. 10	Do.
New appropriation for Pernambuco Port.....	Nov. 17	Do.
Program of the Rio de Janeiro International Cotton Conference.....	Nov. 17	Do.
Public works in Pernambuco.....	Nov. 23	Do.
Project for erection of hotel in Pernambuco.....	Nov. 23	Do.
Silkworms in Pernambuco.....	Nov. 23	Do.
Local expositions.....	Nov. 28	A. Gaulin, consul general at Rio de Janeiro.
New railway bridge in Pernambuco.....	Nov. 30	C. R. Cameron.
Storage charges and port dues levied on merchandise or ships in Port of Pernambuco, and report on finances.....	Dec. 1	Do.
Educational courses in schools.....	Dec. 5	A. Gaulin.
Machinery for soap and oil factory in Pirapora.....	Dec. 6	Do.
Rubber exports for month of November, 1921.....	Dec. 6	Geo. H. Pickerell, consul at Para.
Electrification of Central do Brazil Railway.....	Dec. 12	A. Gaulin.
CHILE.		
Market for American-made stoves.....	Nov. 7	C. F. Deichman, consul general at Valparaiso.
Market for musical instruments.....	Nov. 8	B. C. Matthews, vice consul at Antofagasta.
Proposed construction of port works in Chile.....	Nov. 10	C. F. Deichman.
Exports from Port of Talcahuano first six months of 1921.....	Nov. 12	Dayle C. McDonough, consul at Concepcion.
Exports to the United States 10 months of 1921.....	Nov. 13	Do.
The rubber industry and market for rubber goods.....	Nov. 17	B. C. Matthews.
Commerce and industries of Tarapaca, 1920.....	Nov. 19	Homer Brett, consul at Iquique.
Fisheries and market for fish products.....	Nov. 22	Dayle C. McDonough.
Proposed organization of a second sugar company near Arica.....	Nov. 23	Egmont C. von Tresckow, consul at Arica.
The fruit industry in Chile.....	Nov. 29	Dayle C. McDonough.
Educational courses in schools.....	Nov. 30	B. C. Matthews.
Market for automobiles and accessories in Chile.....	Dec. 3	C. F. Deichman.
Fisheries and market for fish products.....	Dec. 9	Do.
COLOMBIA.		
Cotton growing in Department of Magdalena.....	Oct. 12	Leroy R. Sawyer, consul at Santa Marta.
Census of Colombia.....	Nov. 23	Edmund B. Montgomery, vice consul at Barranquilla.
COSTA RICA.		
November report on commerce and industries.....	Dec. 15	Henry S. Waterman, consul at San Jose.
CUBA.		
Mineral exploitation.....	Nov. 22	Carlton Bailey Hurst, consul general at Havana.
Re-exports of American merchandise from Cuba.....	Dec. 9	Do.
Road construction and public works in Cuba.....	Dec. 12	Do.
DOMINICAN REPUBLIC.		
Preparation of powers of attorney for use in the Republic.....	Nov. 28	Geo. A. Makinson, vice consul at Santo Domingo.
Dominican educational courses.....	Dec. 8	Do.

Reports received to January 23, 1922—Continued.

Subject.	Date.	Author.
ECUADOR.		
New decree on official rate of exchange in Ecuador.....	Nov. 25	Frederic W. Goding, consul general at Guayaquil.
The cabuya, an Ecuadorian fiber plant.....	Dec. 2	Do.
Increased water supply for Guayaquil.....	Dec. 5	Do.
New building law for Guayaquil.....	Dec. 7	Do.
GUATEMALA.		
September report on commerce and industries.....	Nov. 10	Arthur C. Frost, consul at Guatemala City.
Increased postal rates in Guatemala.....	Nov. 23	Do.
The use of cement in Guatemala.....	Nov. 28	Do.
October report on commerce and industries.....	Nov. 29	Do.
Market for condensed milk.....	Dec. 5	Do.
November report on commerce and industries.....	Dec. 14	Do.
Highway transportation.....	Dec. 27	Do.
Jute sack factory to be established.....	Dec. 28	Do.
HONDURAS.		
Laws and regulations regarding the preparation of powers of attorney in Honduras, and copy of the civil code.	Nov. 28	Alexander K. Sloan, consul at Ceiba.
Annual report for fiscal year 1920-1921.....	Dec. 22	G. K. Donald, consul at Tegucigalpa.
Market for tire repair material.....	Dec. 27	Do.
MEXICO.		
Petroleum shipments from Tampico district for October, 1921...	Nov. 16	Claude I. Dawson, consul at Tampico.
New law regulating the practice of medicine in Sonora, law of Nov. 1, 1921, published Nov. 8.	Nov. 18	Bartley F. Yost, consul at Guaymas.
Regulations applying the new medical law.....	Nov. 24	Do.
Hospital at Madera, Chihuahua.....	Dec. 7	John W. Dye, consul at Ciudad Juarez.
Automobile road planned between Nogales, Sonora, and the city of Tepic, Nayarit.	Dec. 10	W. E. Chapman, consul at Mazatlan.
Proposed public works for Guaymas.....	Dec. 11	Bartley F. Yost.
Mexican railroad repair shops will probably be located in Ciudad Juarez.	Dec. 23	John W. Dye.
Mexico increases tariff upon certain articles.....	Dec. 24	Do.
NICARAGUA.		
List of the principal American interests in Nicaragua.....	Nov. 7	Harold Playter, consul at Corinto.
Flour importation.....	Nov. 22	Do.
Export taxes on importations into the United States.....	Nov. 28	Do.
PANAMA.		
Regulations governing the importation of live stock into Panama.	Nov. 28	George Orr, consul at Panama.
Agricultural extension work and home economics.....	..do.	Do.
October report on commerce and industries.....	Nov. 30	Do.
Market for water softening apparatus in Panama, water supply and analysis.	Dec. 3	Do.
Market for American-made stoves.....	Dec. 15	Do.
Certification of inspection of meat exports from Panama.....	..do.	Do.
PARAGUAY.		
Educational courses in schools in Paraguay.....	Nov. 8	Harry Campbell, consul at Asuncion.
SALVADOR.		
Total exports and imports of Salvador for calendar year 1920....	Oct. 31	Lynn W. Franklin, vice consul at San Salvador.
Public health laboratory in San Salvador.....	Dec. 2	Do.
New steamship service touching ports of Pacific.....	Dec. 9	Do.
Parcel post under complete control of post office department of San Salvador, but the levying of customs charges is to be done by the customs authorities as heretofore.	Dec. 10	Do.
URUGUAY.		
Annual report of the Central Uruguay Railway.....	Nov. 16	David J. D. Myers, consul at Montevideo.
October report on commerce and industries.....	Nov. 23	Do.
Formation and operation of corporations, and the operation of corporations in Uruguay.	Dec. 2	Do.
Proposes fairs, expositions, and exhibitions.....	Dec. 6	Do.

BOOK NOTES

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(Continued from February)

URUGUAY.

- Diario de sesiones de la H. Asamblea General de la República Oriental del Uruguay. Tomo XIII, Febrero 15 de 1914 a Febrero 15 de 1920. Montevideo, Imprenta Nacional, 1921. 564 p. 4°.
- Diario de sesiones de la H. Asamblea Representativa de Montevideo. 2° año de la 1ª asamblea. Tomo IV, sesiones del 7 de Enero al 29 de Abril de 1921. Montevideo, Imp. Peña Hnos., 1921. xix, 378 p. 4°.
- Diario de sesiones de la H. Cámara de Senadores de la República Oriental del Uruguay. Tomo CXXI, sesiones de Agosto 12 a Noviembre 5 de 1920. Montevideo, Imprenta Nacional, 1920. 629 p. 4°.
- Diplomática de la defensa de Montevideo. Tomo IV. Por Manuel Herrera y Obes. Buenos Aires, Est. Gráfico A. de Martino, 1919. 184 p. 8°.
- En el XXV aniversario de su fundación 1896, 24 de Agosto, 1921. Banco de la República Oriental del Uruguay. Montevideo, Talleres Gráficos A. Barreiro y Ramos, 1921. fold. tables. 92 p. 8°.
- Legislación escolar vigente 1906-1918. Recopilación cronológica de acuerdos, circulares, decretos, leyes, programas, reglamentos, y otras disposiciones relativas a la instrucción pública primaria. Consejo nacional de enseñanza primaria y normal. Tomo VIII. Montevideo, Imprenta Nacional, 1921. 989 p. 8°.
- Ley y decreto reglamento de timbres y papel sellado para los ejercicios económicos 1919-1920 y 1920-1921. Dirección General de Impuestos Directos. Montevideo, Imprenta Nacional, 1919. 20 p. 8°.
- Reglamento de la biblioteca nacional de Montevideo. (Aprobado por el H. Consejo N. de Administración el 24 de Mayo de 1921.) Montevideo, Imprenta Nacional, 1921. 18 p. 8°.
- Revista del Archivo General Administrativo ó colección de documentos para servir al estudio de la historia de la República Oriental del Uruguay patrocinada por el gobierno y dirigida por el director del archivo Angel G. Costa. Volumen 10. Montevideo, 1920. 279 p. 8°.

VENEZUELA.

- Catálogo de la sesión de bibliográfica nacional. Biblioteca Nacional. Caracas, Imprenta Nacional, 1921. 66 p. 8°.
- Discurso pronunciado en Ocumare de la Costa el 28 de Junio de 1921. Por Samuel Dario Maldonado. Caracas, Tip. Cultura Venezolana, 1921. 15 p. 8°.
- Discurso pronunciado por el Doctor Rafael Requena, presidente de la cámara del senado, al clausurar las sesiones ordinarias en el año de 1921. Caracas, Tip. Americana, 1921. 12 p. 8°.
- Discurso pronunciado por el Pbro. Carlos Borges en la inauguración de la Casa Natal del Libertador, restaurada por el gobierno de la rehabilitación nacional, 5 de Julio de 1921. Fiestas centenarias de Carabobo. Caracas, Imprenta Bolívar, 1921. 30 p. 8°.

GENERAL.

- Acceptance syndicate plan for financing exports. By Dr. J. T. Holdsworth, vice president, The Bank of Pittsburgh, N. A. An address delivered before the annual convention of the Association of Reserve City Bankers, Buffalo, June 2, 1921. 27 p. 12°.

- [Addresses at opening session] Second International Congress of Eugenics, New York, September 22-28, 1921. No imprint. 74 p. 8°.
- Cane sugar. A textbook on the agriculture of the sugar cane, the manufacture of cane sugar, and the analysis of sugar-house products. By Noël Deerr. Second (revised and enlarged) edition. London, Norman Rodger, 1921. front. pls. illus. viii, 644 p. 4°.
- Chronicle of Muntaner. Translated from the Catalan. By Lady Goodenough. Vol. 2. London, Printed for the Hakluyt Society, 1921. map. xxxiii, 371-759 p. 8°.
- Dante y la divina comedia. Por Octavio Mendez-Pereira. No imprint. No date. front. port. 26 p. 12°. Cover title.
- Constitution (I) of the permanent mandates commission. II. Terms of the "C" mandates. III. Franco-British convention of December 23, 1920. IV. Correspondence between Great Britain and the United States respecting economic rights in the mandated territories. V. The San Remo oil agreement. New York, American Association for International Conciliation, 1921. 56 (2) p. 12°.
- Dictionary of botanical equivalents. French-English; German-English. By Ernst Artschwager and Edwina M. Smiley. Baltimore, Williams & Wilkens Co., 1921. 136 p. 8°.
- French-English dictionary for chemists. By Austin M. Patterson, Ph. D. New York, John Wiley & Sons, Inc., 1921. xvii, 384 p. 12°.
- Informe presentado por el Doctor Pablo García Medina, delegado de la república de Colombia, sexta conferencia sanitaria internacional Panamericana de Montevideo. Montevideo, Tip. Moderna, 1920. 17 p. 8°.
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- Memorias del Doctor Mariano Ferreira. Años 1897-1921. Libro II. Montevideo, Imprenta y Casa Editorial "Renacimiento," 1921. front. port. illus. 480 p. 8°.
- New world problems in political geography. By Isaiah Bowman, Ph. D. Yonkers-on-Hudson, World Book Company, 1921. illus. maps. vii, 632 p. 8°.
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- Proceedings of the Hague Peace Conference: Translation of the official texts. Prepared in the division of international law of the Carnegie Endowment for International Peace, under the supervision of James Brown Scott. The conference of 1907. Volume II, meetings of the first commission. New York, Oxford University Press, 1921. lxxxii, 1086 p. 4°.
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- Album de la industria Argentina del calzado. Buenos Aires, Centro Fabricantes de Calzado. Talleres Gráficos R. Canals, [1921]. illus. 319 p. 4°.
- Business conditions in Argentina. Report No. 152, 1st October, 1921. Buenos Aires, Ernesto Tornquist & Cía., Limitada. 1921. 23 p. 4°.
- Ley de patentes No. 11,026 para 1920 y decreto reglamentario. Departamento de hacienda. Publicación oficial. Buenos Aires, 1920. 37 p. 12°.
- Revista del Museo de La Plata. Director Dr. Luis María Torres. Tomo XXV (Tercera serie, Tomo 1). Buenos Aires, Imprenta y Casa Editora "Coni," 1921. pls. xxiv, 399 p. 4°.

BRAZIL.

- Anuario do Jockey-Club 1919-1920. Rio de Janeiro. 12°. 2 vols.
- International centennial celebration. Rio de Janeiro. Washington, 1921. 5 p. 8°. (67th Cong., 1st sess. House of Representatives. Report No. 428.)
- Mensagem apresentada á assembléa legislativa em 7 de Setembro de 1921 . . . pelo Coronel Dr. José Joaquim Pereira Lobo, Presidente do Estado de Sergipe. Sergipe, 1921. fold. tables. 77 p. 4°.

CHILE.

- Chile y la independencia del Perú 1821-1921. Documentos históricos oficiales. Santiago de Chile, Imprenta Cervantes, 1921. illus. 79 p. 8°.
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- La procès de Nariño. Ed. Clavey. Paris, Cohors, Imp. Coueslant, 1921. 15 p. 8°.
- Memoria que el Ministro de Gobierno presenta al Congreso de 1921. Bogotá, Imprenta Nacional, 1921. ccli, 604 p. 8°.

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CUBA.

- Inmigración y movimiento de pasajeros en el año de 1920. Sección de estadística. Habana, Imprenta "La Propagandista," 1921. diagrs. 24 p. 4°.
- Memoria de los trabajos realizados de Cámara de Representantes, Habana. Tomo 1-3 and 5-9. 1902-1921. Habana, Rambla, Bouza y Cía. 4°. 8 vols.

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Memoria de la Secretaría de Estado de Agricultura e Inmigración del 1° de Julio, 1919, al 30 de Junio, 1920. Santo Domingo, Imp. La Cuna de América, 1921. 68 (1) p. 4°.

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GUATEMALA.

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Compañía de teléfonos de Guatemala. Nómima de suscritores Abril de 1921. Guatemala, Tip. Sánchez & De Guise, 1921. 60 p. 8°.

Manifiesto que el ciudadano Carlos Herrera dirige a los Guatemaltecos. 1° de Octubre de 1921. Guatemala, Tip. Sánchez & de Guise, 1921. 6 p. 8°.

Memoria de la Secretaría de Relaciones Exteriores de Guatemala presentada a la Asamblea Nacional Legislativa en 1921. Guatemala, Tip. Sánchez y de Guise, 1921. 470 p. 8°.

Plan de estudios, programas e instrucciones para el kindergarten. Ministerio de instrucción pública. Guatemala, Imprenta Nacional, 1921. 20 p. 8°.

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Compañía telefónica y telegráfica Mexicana. Lista de subscriptores de Enero de 1921. México, Imprenta "La Helvetia," 1921. 425, cccclxi, 9, 11, 11 p. 8°.

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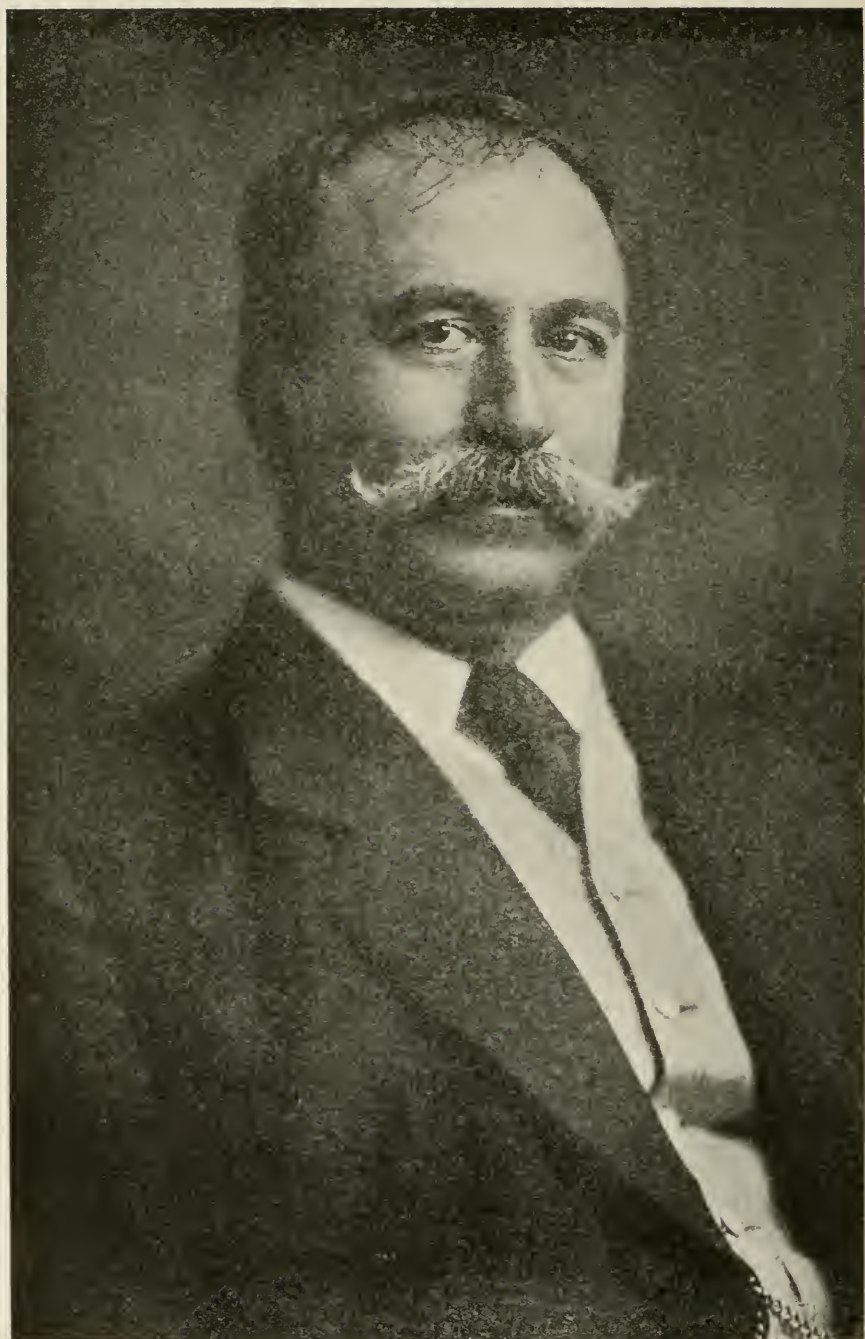
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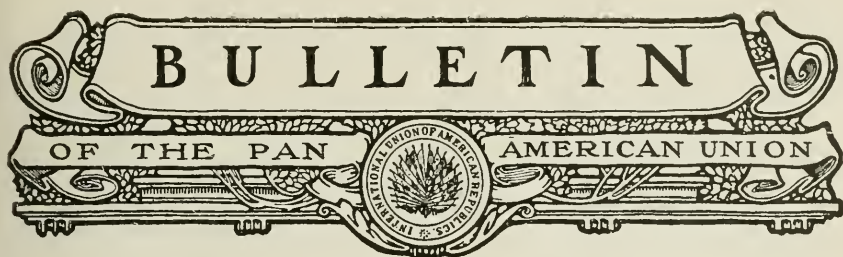
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GENERAL PEDRO NEL OSPINA, PRESIDENT-ELECT OF COLOMBIA.



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GEN. PEDRO NEL OSPINA, PRESIDENT-ELECT OF COLOMBIA

ON FEBRUARY 12, 1922, a general election was held in the Republic of Colombia for the purpose of electing a new national executive, in strict conformity with the Federal constitution, for the four-year term beginning August 7, 1922, this date marking the anniversary of the battle of Boyaca, a decisive point in Colombia's struggle for independence. Voting throughout the Republic was general to an unusual degree, a total of 650,000 votes being cast for the two candidates, Gen. Pedro Nel Ospina and Gen. Benjamin Herrera, representing the Conservative and Liberal Parties, respectively, of which total 350,000, approximately, were in favor of the Conservative candidate.

General Ospina, the new President-Elect, is no new figure in the eyes of his countrymen, as attested by the 35 long years he has devoted to the service of his country and the Conservative party. Not once, but many times has his voice been heard in legislative chambers in defense of the rights and liberties of his fellow citizens, his broad culture and great talent having contributed repeatedly toward the establishment of reforms directly related to the progress and well-being of Colombia, in general.

Born in the city of Bogota on July 24, 1858, the son of that distinguished citizen and statesman, Dr. Mariano Ospina who occupied the presidential chair from 1857 to 1860, the young Ospina received

his preliminary education in that same city, completing his studies later in Europe and, later still, in one of the principal universities of the United States.

Upon his return to Colombia he at once entered the field of politics by way of journalism. Before long he was elected deputy to the State assembly of Antioquia, a position which he held through several subsequent reelections until his election to Congress. During the civil war of 1900-1903 he entered the army, rendering most valuable services on the side of the Government as chief of the Antioquia division.

In 1902, during the administration of Marroquín, he was named minister of war, which portfolio he held until his election, in 1903, as senator from Antioquia. Shortly afterwards, together with Gen. Rafael Reyes, he was sent on a special mission to the United States, and after his return, from 1904 to 1909, during the Reyes administration, he devoted himself to the development of national industries.

General Ospina entered the diplomatic service in 1911, his first appointment being envoy extraordinary and minister plenipotentiary before the Government of the United States, whence he passed with the same mission to the Court of Belgium, remaining there until the outbreak of the World War, whereupon he returned to Colombia to again represent Antioquia in various capacities, including that of governor. No more eloquent testimony to his ability, both as a legislator and an administrator, could be desired than the steady progress and the present flourishing condition of the State of Antioquia, to the development and prosperity of which the new President-Elect has for a generation devoted his best efforts and energy.

As an illustration of the sentiments and ideals by which the President-Elect is inspired, the BULLETIN can not do better than quote the following paragraphs from his speech, accepting the candidacy offered him by the Conservative Party:

Fully realizing the deep significance of this occasion, the utmost and indeed the very least word that I can say upon it * * * is: That should the Colombian people point out the path by which with your support I shall reach the highest place of honor and responsibility within the power of a real democracy to bestow upon its citizen, I shall, fully trusting in the help of the divine providence, devote all my powers of mind and soul to justifying the overwhelming confidence you have reposed in me. I shall be loyal to the country, faithful to the principles of its citizenship, its constitution, its laws, and to the beliefs of the immense majority of its people who, in the enjoyment of liberty, order, and progress, are the very basis, and who shape the entire program, of our party, and to the defense of these principles I have devoted the greater part of my life. * * *

I shall strive with enthusiasm and perseverance to prepare the mind and will of the rising generation for that new order of life which, with or without our wish or consent, they and we must enter, that life in which the nations of the world are in danger of being overwhelmed by the formidable tide of united industrialism and the industrial rivalry so greatly accentuated since the World War; that life, which, in order to avert

disaster, requires new orientation, new moral resources, and technical education and preparation of the highest order. To this end I shall take advantage of every opportunity to endow our people with the necessary means and equipment—the guarantees of success—for production in this struggle—without which they will vegetate in sterile inaction, a condition which, in combination with the natural riches of the country, tends to awaken the greed of the more active and powerful nations of the world. To this end I consider most important a judicious use of our credit and the maintenance, at any cost, of a healthy monetary system, with the object, among others, of developing the means of communication and other utilities of a national character; and, as the benefits of these improvements will be enjoyed by the coming generation even more than by the present, it is both logical and just that the former should contribute their share of the cost. * * *

For the accomplishment of all these undertakings, which form as it were an index of realizable aspirations, I sincerely believe that I may count on the divine favor and help, with all the more confidence because I recognize my own insufficiency, and also on the support not only of my partisans but of all good Colombians who, with a clear comprehension of the present peculiar circumstances, will be able and willing to put the good of the country before every other consideration.

The BULLETIN OF THE PAN AMERICAN UNION offers its congratulations to the new President-Elect of Colombia, and joins his numerous friends, both in the United States and his native land, in wishing for him a peaceful, progressive, and prosperous administration.



COAT OF ARMS OF COLOMBIA.

FAULTY FOOD IN RELATION TO GASTROINTESTINAL DISORDERS¹ ∴ ∴

By ROBERT McCARRISON, M.D., D. Sc., LL.D.

Fellow of the Royal College of Physicians of London; Lieutenant Colonel, Indian Medical Service, Oxford, England.

I propose in this lecture to propound the thesis that much of the gastrointestinal disorder of civilized peoples at the present day is due to faulty food. In doing so I shall present evidence of the incidence of such disorder among civilized communities and of its comparative absence among certain races living under more natural conditions; and contrast, in general terms, the food habits of the former with those of the latter. I shall refer to the special relation of perfect food to the functional perfection of the gastrointestinal tract; and from these sources advance presumptive evidence of the effects of faulty food in impairing the functional perfection of the digestive system. Experimental evidence of these effects will then be given, and attention directed to the applicability of the experimental results to the genesis of certain acute and chronic gastrointestinal disorders. Finally I shall argue that faulty foods capable of causing similar effects in man to those produced experimentally in animals are widely made use of at the present day. Having thus introduced the subject to your notice I shall leave you to examine for yourselves in the wards, the clinic and the home the truth of the doctrine I have propounded.

PREVALENCE OF GASTROINTESTINAL DISORDERS AMONG CIVILIZED PEOPLES.

It was recently stated by a public health administrator in England that 25 per cent of all patients seeking relief at out clinics did so for gastrointestinal disorders. So far as my memory serves me, the statement was made in order to emphasize the necessity for a study of the etiologic factors concerned in the production of this great mass of sickness. It has, too, been pointed out within the last few months

¹ Sixth Mellon lecture read before the Society of Biological Research, University of Pittsburgh, Nov. 18, 1921. Reprinted from *The Journal of the American Medical Association*, Jan. 7, 1922.

that the alarming increase of cancer among town dwellers in Great Britain is due, in the main, to the increasing prevalence of gastrointestinal cancer. These are facts of such public concern that they demand the close attention of all students of public health; for if by any means we can prevent gastrointestinal disorders we shall relieve civilized communities of one-quarter of their sufferings.

In the fascinating pursuit of pathogenic organisms as cause of disease we are apt to overlook the claims on our consideration of sufferers from noninfectious maladies—the claims, for instance, of the dyspeptic or of the sufferer from colonic disease. Possibly this is due to the fact that the dyspeptic rarely dies of dyspepsia nor the subject of colonic disease from colitis. Their discomforts, not being catching, are no more to their neighbors than a source of irritation; consequently their claims on the consideration of the hygienist are overshadowed by the multitude's demand for the elimination of the microbe. The multitude does not know, and we ourselves often forget, that the activities of the microbe as a pathogenic agent are very often dependent on those very conditions of life which give rise to the discomforts and sufferings of the victims of such maladies as indigestion and mucomembranous colitis. It is these conditions of life and of imperfect nutrition which frequently prepare the soil of the body for the rank growth of bacterial agents.

Fortunately within the last few years the attention of investigators of disease has been directed into new channels of inquiry, channels which take cognizance of the influence of negative factors in the production of disease as well as of positive factors. As is usual in any new development, advance has been made along narrow lines; but the stream of knowledge has gradually broadened, so that we are beginning to appreciate the wider significance of the negative factors in the production of disease in general. Chief among them is food deficient in some ingredient essential to the body's well-being, such, for instance, as vitamins, suitable protein, iodine, phosphorus or calcium. It sometimes happens that one such essential is present in the food in insufficient quantity. Then metabolic harmony ceases or becomes discordant and "deficiency disease" results.

It is necessary to emphasize that "deficiency disease" is a question not merely of deficiency of vitamins, but of deficiency of any essential requisite of a perfect food. Nor is this all, for in practice deficiency of one essential often means excess of another; such, for instance, as relative deficiency of vitamin B in the presence of an excess of starch, or relative deficiency of iodine in the presence of an excess of fats; the excesses may themselves give rise to relative deficiencies of other essentials, and especially of those present in the food in relatively small quantities. Lack of balance of the food is a fault second only in importance to actual want of some essential ingredient. The food

faults encountered in practice are thus often compounded of deficiencies in association with excesses.

The importance of adequate food-balance is illustrated by even the purest of "deficiency diseases," such as scurvy, concerning which Pitz and Lewis have shown that adequate provision of other food essentials will delay in guinea pigs the onset of scurvy, induced by lack of vitamin C, and prolong their life. The same is true of other deficiency diseases, such as polyneuritis columbarum induced by lack of vitamin B. My own researches have impressed the importance of perfect food balance on me with increasing force within the last few months, since I have been able to show that an excess of fats or of unsaturated oleic acid in the food may cause a relative deficiency of iodine and enlargement of the thyroid gland (goiter). It is necessary, also, in this connection, to recognize a further fact, namely, that one can not in practice dissociate from the effects of deficient and ill-balanced foods those of bacterial or protozoal agencies whose ravages have been made possible by the faulty food. My remarks, therefore, are to be considered from these broader aspects, namely, of food deficiencies in association with food excesses, and with the fortuitous intervention of microbic or other pathogenic organisms.

FREEDOM OF UNCIVILIZED RACES FROM GASTROINTESTINAL DISTURBANCES.

In considering gastrointestinal disease in the mass, the realization is forced on one that since it is so common it must have a very common cause. It is helpful, in endeavoring to ascertain the cause of a malady widely prevalent in one community or race, to contrast the conditions of life of such a community with those of another that is free, or comparatively free, from the malady in question. My own experiences have afforded me this opportunity in the case of gastrointestinal disorders. For some nine years of my professional life my duties lay in a remote part of the Himalayas where there are located several isolated races far removed from the refinements of civilization. Certain of these races are of magnificent physique, preserving until late in life the characters of youth: they are unusually fertile and long lived, and endowed with nervous systems of notable stability. Their longevity and fertility were, in the case of one of them, matters of such concern to the ruling chief that he took me to task for what he considered to be my ridiculous eagerness to prolong the lives of the ancients of his people, among whom were many of my patients. The operation for senile cataract appeared to him a waste of my economic opportunities, and he tentatively suggested instead the introduction of some form of lethal chamber designed to remove from his realms those who by reason of their age and infirmity were no longer of use to the community. Among another of these races,

the custom which required an eldest son on pain of death to carry in a conical basket his aged and decrepit parents to the top of a high rock from which to hurl them to destruction has died out only within recent years under the protective influence of British rule; and the proverb "Everyman's basket for his son" still survives the custom.

During the period of my association with these peoples I never saw a case of asthenic dyspepsia, of gastric or duodenal ulcer, of appendicitis, of mucous colitis, or of cancer, although my operating list averaged 400 major operations a year. While I can not aver that all these maladies were quite unknown, I have the strongest reason for the assertion that they were remarkably infrequent. The occasions on which my attention was directed to the abdominal viscera of these people were of the rarest. I can, as I write, recall most of them; occasions when my assistance was called for in the relief of strangulated hernias, or to expel the ubiquitous parasite *Ascaris lumbricoides*. Among these people the "abdomen oversensitive" to nerve impressions, to fatigue, anxiety, or cold was unknown. Their consciousness of the existence of this part of their anatomy was, as a rule, related solely to the sensation of hunger. Indeed, their buoyant abdominal health has, since my return to the west, provided a remarkable contrast with the dyspeptic and colonic lamentations of our highly civilized communities. Searching for an explanation of this difference in incidence of gastrointestinal disease in the two peoples, I find it, in the main, in four circumstances: (1) Infants are reared as nature intended them to be reared—at the breast. If this source of nourishment fails, they die; and at least they are spared the future gastrointestinal miseries which so often have their origin in the first bottle. (2) The people live on the unsophisticated foods of nature, milk, eggs, grains, fruit, and vegetables. I do not suppose that one in every thousand of them has ever seen a tinned salmon, a chocolate, or a patent infant food, nor that as much sugar is imported into their country in a year as is used in a moderately sized city hotel in a single day. (3) Their religion prohibits alcohol, and although they do not always lead in this respect a strictly religious life, nevertheless they are eminently a teetotal race. (4) Their manner of life requires vigorous exercise of their bodies.

FAULTY FOOD.

Each one of these differences in the habits of my Himalayan friends, as compared with those of western peoples, would form, in itself, a fitting subject for discourse; but I shall content myself with a brief consideration of the first two under the general heading of "faulty food." It is not that the races to which I have referred live under hygienic conditions superior, as to housing and con-

servancy, to those of the masses in the west. On the contrary, in both these respects their conditions of life are most primitive. Nor is it that in their agricultural struggles with nature they have acquired any peculiar immunity to the effects of faulty food; they are, indeed, as susceptible as others to these effects, as the following occurrence illustrates: It fell out that the cultivable lands of one of these races were no longer sufficiently extensive for the increasing population. To meet this it was decided to colonize another tract which had never previously been cultivated. A dozen families were settled there, and they made shift to grow upon its granite and infertile soil such grains as they could. My attention was directed to their efforts, and more especially to the results of them, when 10 out of 12 adult young men developed paralysis of the lower limbs due to lathyrism—a rare malady resulting from the disproportionate use in the food of the vetch *Lathyrus sativus*. These settlers, finding it impossible to grow a sufficiency of wheat, had cultivated the hardy vetch and used it in too high admixture with their scanty stores of wheat. The result was the development of paralysis of the lower limbs among the male population, while the female members of the settlement were unaffected. I mention this dramatic occurrence to show you that perfect physique and stability of the nervous system did not protect them from the effects of faulty food, and incidentally to emphasize the sex variations to be found in maladies resulting from food faults. For although in the case of lathyrism the difference in incidence of the disease in the two sexes is more marked than in any other nutritional malady known to me, yet it is in some nutritional diseases a very striking feature.

We see, then, that as exemplified by certain Himalayan races and, as I find from recent reports in the medical press, by such races as those of Upper Egypt and northern Nigeria, enforced restriction to the unsophisticated foodstuffs of nature is compatible with fertility, long life, continued vigor, perfect physique, and a remarkable freedom from digestive and gastrointestinal disorders, and from cancer. I must confess that with these examples before me I find myself in accord with Hindhede, who affirms—and on unequivocal evidence—that the two chief causes of disease and death are food and drink.

CONTRAST BETWEEN FOOD HABITS OF PRIMITIVE PEOPLES AND THOSE OF CIVILIZED COMMUNITIES.

Let us now for a moment contrast the habits of these primitive people in respect to food with those of our more highly civilized communities. The former are content with natural foods—milk, eggs, grains, fruits and leafy vegetables—or, if their state of mind be not precisely one of contentment, they can at least not better their

lot nor worsen it. These natural foods—"the protective foods," as McCollum has named them—provide in proper quality and proportion the proximate principles and vitamins necessary for nutritional harmony, and the proper vegetable residues for the healthy evacuation of the bowels. But the case is different with civilized man. No longer is he content with the unsophisticated foods made in nature's laboratory, with "herbs bearing seed" and with "every tree in which is the fruit of a tree yielding seed." To him these are "still for meat," but preserved, purified, polished, pickled and canned. Some he extracts and distills with the object of procuring concentrates agreeable to his taste. His animal food he heats, dries, freezes, thaws, and stores. One way or another, by desiccation, by chemicals by heating, by freezing and thawing, by oxidation and decomposition, by milling and polishing, he applies the principles of his civilization—the elimination of the natural and the substitution of the artificial—to the food he eats and the fluids he drinks. With such skill does he do so that he often converts his food into a "dead" fuel mass, devoid of those vitamins which are to it as the magneto's spark to the fuel mixture of a petrol-driven engine. Unmindful, too, or more often ignorant, of the composition of the fuel-mixture with which he charges his human machine, he joins deficiencies of some essentials with excesses of others, heedless that the smooth running of his bodily functions bears intimate relation to the ordered balance of these essentials.

I am not at the moment concerned with the circumstances of his civilization—expediency, penury, prejudice, ignorance, or habit—which have compelled man into this dangerous course. It is sufficient for my purpose that these circumstances exist, and that, in consequence of the food habits they have fostered, normal bodily function can not be sustained and gastrointestinal function is one of the first to suffer. Let me emphasize this point: "Gastrointestinal function is one of the first to suffer." This truth is made manifest by the clinical evidences of disease that are first to appear in wild monkeys fed on deficient and ill-balanced food—loss of appetite, depraved appetite, vomiting, diarrhea, dysentery, anemia, unhealthy skin, asthenia, and loss of body weight. If the faulty food be persisted in, other symptoms manifest themselves later, due in the main to malnutrition of the central nervous system; but it is the gastrointestinal tract, the functions of digestion, absorption and assimilation that are among the first to fail in consequence of faulty food. These are the signs that our ship is running upon the rocks, and, as good pilots, we must be aware of them. I often think that we are apt to assume more readily the office of salvors of wrecks than of pilots whose function it is to prevent them.

But not only is functional failure of the digestive system an early evidence of faulty food, but the gastrointestinal tract is often the first to exhibit clinical evidence of infection by pathogenic organisms in consequence of it. Let me illustrate this last point by an experience in my own laboratory: Thirty-six wild monkeys were captured in the jungles of Madras and transported with the least possible delay to my laboratory in the hills at Coonor. They were in perfect health and full of vigor—wild things usually are. I had in these animals perfectly normal tissues to work on; a unique opportunity to observe the first clinical and pathologic effects on normal tissues of the agent—faulty food—with which I was working. Each of these animals was placed in a separate cage, and all were confined in the same animal room. One attendant looked after them all. Twelve of them were fed on natural food, the remaining 24 on food deficient in some cases in vitamins as well as ill balanced; others were fed on natural food in which the living essences had been destroyed by sterilization. Those that were naturally fed remained free from intestinal disease; those that were fed on deficient and ill-balanced food and on sterilized food developed, within a short time in a majority of cases, diarrhea or actual dysentery. Here, then, is an unequivocal instance not only of the effect of faulty food in inducing a specific disease such as dysentery but of the protection against it that is afforded by a natural and well-balanced food.

RELATION OF PERFECT FOOD TO FUNCTIONAL PERFECTION OF GASTROINTESTINAL TRACT.

Now, let us consider for a moment the purposes which perfect food subserves. Everyone recognizes that food is taken into the body to repair tissue waste, to supply energy, and to provide the proper medium for the chemical reactions of the body. But do we always visualize these functions of food in relation to the organs of digestion themselves, and to the work to be done by the gastrointestinal tract? If we did I think we should have no difficulty in realizing the special effects on these organs of an insufficient supply of proteins which rebuild the digestive tissues and make good their waste, or of those constituents of the food which supply energy for the production of the digestive secretions and the movements of food along the digestive tract, or of salts which provide the proper medium for the chemical processes of digestion, or of vitamins which activate the cells of the digestive system to healthy function. The effects of deficiency of these essentials must of necessity be manifested in failures of digestive, absorptive, assimilative, and motor functions of this important region of the body. It is not necessary to make laboratory experiments to prove that if a woman lives on white bread, margarin, condensed milk, and tea, with a minimum of imported meat and boiled potato.

she is prone to suffer from such digestive disorders as dyspepsia and colonic disease. For such a diet does not contain a sufficiency of proteins to rebuild the tissues involved in digestion, assimilation, and evacuation of the bowel contents; it does not contain a sufficiency of vitamin to activate the cells of the digestive system to healthy function; it is ill balanced, and by its excessive richness in starch it favors the development in the digestive tract of fermentative organisms, and makes relatively more deficient the vitamins necessary to healthy cellular action; nor does it contain a sufficiency of vegetable residue, of cellulose, waxes, and vegetable salts, to insure natural action of the bowels.

EFFECTS OF FAULTY FOOD.

Nor do we, I think, always consider the dependence of one constituent of the food upon another for its share in the maintenance of nutritional harmony. We know that if such essentials as protein and inorganic salts be not provided in adequate quality and quantity, growth must flag and repair of body waste must fail or cease; but do we realize that the utilization of suitable protein and of suitable salts is dependent on the presence in the food of a sufficiency of vitamins, or that the efficiency of vitamins is dependent in considerable measure on the adequate supply of these proximate principles? If the tissue waste of the gastrointestinal tract be not made good—whether in consequence of insufficient supply of suitable protein or of its insufficient utilization—then must the production of digestive juices fail, the mechanism of absorption and assimilation flag, the neuromuscular control of the gastrointestinal tract become inefficient and the tissues of the tract become the prey of pathogenic organisms. It is thus that such a nutritional disease as pellagra arises, and thus that the manifold varieties of gastrointestinal disorder due to failure of digestive function may come into being.

It is unwise to consider any of the essential ingredients of food, whether proteins, carbohydrates, fats, salts, water or vitamins, as independent of the assistance derivable from their associates in the maintenance of digestive and nutritional harmony. No doubt, some of these have special relations to others, as for instance that of iodine to fats, that of vitamin B to carbohydrates, that of vitamin A to lipoids, calcium and phosphorus holding substances, and that of vitamin C to inorganic salts. But whatever be their special relations one to another, they are all links in the chain of essential substances requisite for the harmonious regulation of life's processes, if one link be broken, the harmony ceases or becomes discord. Of late the science of nutrition has tended to assume a too "vitaminic" outlook, and it is well to realize that, important as these substances are, man can not live on vitamins alone, nor can he live on proximate

principles alone; each is complementary to the other, and deprivation of the one leads to starvation as surely as does deprivation of the other. Our knowledge of vitamins is still in the making, but it serves a useful purpose to have some mental conception of their function. I have likened it to the magneto's spark which ignites the fuel mixture of a petrol-driven engine, liberating its energy—the spark is of no use without the fuel nor the fuel without the spark; nay, more, the efficacy of the spark is dependent in great measure on the composition of the fuel mixture.

EVIDENCE OF THESE EFFECTS.

But if I am to succeed in demonstrating the truth of my claim that faulty food is responsible for much of the gastrointestinal ill health so common at the present day, I must provide other than presumptive evidence of its effects on the digestive system and convince you also that foods having faults capable of causing these effects are nowadays extensively used by civilized communities. I propose, therefore, to fulfill the first condition by ocular demonstration and to rely upon my argument for the fulfillment of the second.

For some years past I have been engaged in a study of the effects of deficient and ill-balanced food on the various organs and tissues of the body, as observable in animals fed on such foods under experimental conditions. Having reached certain conclusions with respect to the digestive organs and gastrointestinal tract in such animals as pigeons, rats, and guinea pigs, I repeated my experiments in wild monkeys captured in the jungles of Madras so that I might observe the effects of faulty foods on animals closely related to man. The foods I used were natural foods that had been rendered faulty by various means; they were of several classes:

(1) Foods deficient in all three classes of vitamins, in suitable protein in fats and excessively rich in starch.

(2) Foods deficient in vitamins B and C and excessively rich in starch and fats.

(3) Foods deficient in vitamin C only, in vitamin B only, and in vitamins A and B, but well balanced in other respects.

These classes of food presented for my purpose an adequate range of deficiencies alone, and of deficiencies in combination with excesses; they include many of the food faults observable in the dietary of many civilized people at the present day. Before demonstrating the effects of these faulty foods on the digestive organs and gastrointestinal tract, I must point out very shortly the simultaneous effects to which they give rise on the endocrine regulators of metabolism, the thyroid gland, the suprarenal gland, and the pituitary body; for it is to be remembered that the maintenance of healthy gastrointes-

tinal function is dependent in considerable measure on healthy endocrine action. It would carry me too far afield to develop adequately the latter theme—I content myself, therefore, with directing your attention to it, and with laying emphasis on the fact that it is necessary to consider in relation to the changes produced in the digestive system by faulty food those that are simultaneously produced by the same agency in the endocrine system. As an instance of this intimate correlation of digestive and endocrine function and disorder, I may refer to the simultaneous production by faulty food of colitis, of depreciation of liver function, and of suprarenal derangement. The first is the most obvious clinical feature of the nutritional disturbance induced by the faulty food; the occurrence of the second may serve to account for the toxic symptoms from which the sufferers from mucous colitis suffer, and for the opinion held by some that mucous colitis is due to hepatic insufficiency; while the third provides some insight into the effects of fatigue, anxiety and cold in precipitating attacks of mucous colitis in the malnourished subjects of colonic disease. The malady is, indeed, as much a disorder of the suprarenal glands as of the colon.

The data afforded by specimens indicate that the profound changes resulting in the gastrointestinal tract in consequence of the various deficient foods employed are similar in kind in the three species of animals I used—pigeons, guinea pigs and monkeys; it may be expected, therefore, that they will be similar in kind, if not in degree, in human beings whose dietaries have faults similar in kind if not in degree to those used in the experiments. I think there is good reason to believe that the prolonged use of a moderately faulty food will lead to them as certainly as the less prolonged use of a more faulty food. Without attempting to analyze them too closely or to attribute to each fault a specific effect we may, I think, draw from them certain broad conclusions:

(1) The health of the gastrointestinal tract is dependent on an adequate provision of vitamins. The absence of growth vitamins is capable of producing pathologic changes in the tract which frequently assume the clinical form of colitis. This observation is of the highest importance in view of the frequency with which this malady is encountered at the present day. Deficiency of vitamin C is especially concerned in the production of congestive and hemorrhagic lesions in the tract, and evidences of these may be found in animals which have not exhibited during life any of the clinical manifestations of scurvy in noteworthy degree. A state of ill health of the gastrointestinal tract may thus be a prescorbutic manifestation of disease due to insufficiency of this vitamin, especially when associated with an excess of starch or fat or both in the food.

(2) The disorder of the gastrointestinal tract consequent on vitamin deficiency is enhanced when the food is ill balanced.

(3) The pathologic processes resulting in this situation from deficient and ill-balanced foods are:

(a) Congestive, necrotic and inflammatory changes in the mucous membrane, sometimes involving the entire tract, sometimes limited areas of it.

(b) Degenerative changes in the neuromuscular mechanism of the tract, tending to dilatation of the stomach, ballooning of areas of small and large bowel, and probably also to intussusception.

(c) Degenerative changes in the secretory elements of the tract—of the gastric glands, the pyloric glands, the glands of Brunner, the glands of Leiberkühn, and the mucous glands of the colon. These changes are such as must cause grave derangement of digestive and assimilative processes.

(d) Toxic absorption from the diseased bowel, as evidenced by changes in the mesenteric glands.

(e) Impairment of the protective resources of the gastrointestinal mucosa against infecting agents, due to hemorrhagic infiltration, to atrophy of the lymphoid cells, and to imperfect production of gastrointestinal juices. This impairment not only results in infections of the mucous membrane itself, but also permits of the passage into the blood stream of microorganisms from the bowel.

(f) It is to be emphasized that the pathologic changes found in the gastrointestinal tract are more marked in some individuals than in others; and that, while all of them may occur in one and the same subject, it is usual to find considerable variation in the incidence of particular lesions in different individuals.

APPLICABILITY OF EXPERIMENTAL RESULTS TO GENESIS OF GASTRO-INTESTINAL DISORDERS.

With these evidences of the effects of faulty food before us, we have, I think, good reason to proceed with our investigation of the relation of faulty food to the common gastrointestinal disorders of the present day.

It is usually accepted as a proof of the causation of a malady that if an investigator by one agency or another can produce in animals, under controlled experimental condition, the malady in question, then this agency is the cause of the disease, or intimately associated with its causation. Consider, then, that by means of faulty food, (1) diarrhea, (2) dysentery, (3) dyspepsia and gastric dilatation, (4) gastric and duodenal ulcer, (5) intussusception, (6) colitis, and (7) failure of colonic function can be produced experimentally. I do not argue that they are invariably so produced or that faulty food

is the only cause of them. I do not deny the influence of microbic or other pathogenic agents in contributing to their production; indeed, I have ever insisted upon it. But I do maintain that faulty food is often at the bottom of their causation, and that the use of natural or well-balanced food from birth onward will greatly militate against their occurrence.

I can not remember that by means other than faulty food such a disorder as colitis can be so readily produced, if at all; for the experimental production of amebic dysentery by the oral administration of *Endameba histolytica* cysts is not at all convincing. On the other hand, I have seen amebic dysentery arise in deficiently fed wild monkeys, while others that were well fed escaped the disease although subjected to the same risks of infection. In this instance malnutrition had enabled the specific organism to implant itself in the tissues of the bowel. If further evidence of the influence of faulty food in the production of these gastrointestinal disorders be needed, it will be found in abundance in the medical history of the late war, during which these disorders were so often the consequence of faulty food. In this regard, our enemies have served unwittingly one useful purpose—they forced us to concentrate attention on the immediate and remote effects of food faults on the human body. But our ever present enemies in peace—poverty, prejudice, ignorance, habit—are no less responsible in this regard; they, too, beneath the vaunted culture of our civilization, inflict upon numbers of our people an intolerable load of misery, which it is our duty to relieve.

I would, therefore, urge on your attention a consideration of the effects of faulty food in relation to such acute disorders as infantile diarrhea, jail dysentery and asylum dysentery, asking you, while remembering the bacteriologic aspects of these maladies, to look on them also from the point of view of faulty food. The bacteriologic path has led us far in our knowledge of preventable disease, but it will lead us farther still if we traverse at the same time the paths of malnutrition that so often run parallel with it. In relation to such chronic disorders as "mucous disease" in children, chronic gastrointestinal dyspepsia, pellagra sine pellagra, colonic disease in adults, celiac disease, gastric and duodenal ulcer, and chronic intestinal stasis, the food factor in their production deserves the fullest consideration; for if the facts I have laid before you do not provide the whole explanation of their genesis, they are, I am convinced, intimately related to it. Time does not permit me to develop this theme further. Full reference has been made to it in my recently published book, *Studies in Deficiency Disease*, where many points which of necessity I have omitted from this lecture are set out.

EXTENSIVE USE OF FAULTY FOOD.

Turning now to my last duty, that of presenting evidence that faulty food is largely used by many civilized people at the present day, I would ask you to consider first in this connection the increasing tendency in modern times to rear infants artificially—on boiled, pasteurized and dried milks, and on proprietary foods which are all of them vastly inferior to healthy mother's milk in substances essential to the well-being of the child—inferior not only in vitamins, but also in enzymes, thyroid derivatives and other essentials. When, as is sometimes the case, mother's milk is itself harmful to the child, is not this largely the result of her own disordered metabolism that in many cases results from improper feeding before, during and after pregnancy? For mother's milk may, like the milk of animals, be deficient in certain respects if her food be deficient. The milk of stall fed cows is not so rich either in vitamin A or in vitamin C as that of cows fed in green pastures.

Again, is not cow's milk—an important dietary constituent of young and old alike—gradually becoming a luxury reserved for the few? Vegetable margarins are replacing butter even among the richer classes. Fresh fruit, certainly in Great Britain, is a comparative rarity, even on the tables of the rich. Green vegetables are scanty, and such as there may be are often cooked to the point of almost complete extraction of their vitamins and salts. White bread has largely replaced whole-meal bread, and it is notorious that bread forms a high proportion of the dietaries of persons of limited means. It is notable that, despite the food restrictions imposed upon the people of Belgium during the late war, the infant mortality and infantile diarrhea decreased greatly—a circumstance which was due to the organized propaganda encouraging mothers to nurse their infants, and to the establishment of national canteens which provided prospective mothers from the fifth month of pregnancy onward with eggs, meat, milk, and vegetables. Again, fresh eggs are so expensive as to debar the masses from their use. Meat is at best but poor in vitamins, and its value in these essentials is not enhanced by freezing and thawing. Sugar is consumed in quantities unheard of a century ago, and sugar is devoid of the vitamins which the cane juice originally contained. The use of stale foods involving the introduction of factors incidental to oxidation and putrefaction is the rule; that of fresh foods, the exception.

Can it, then, truly be said that the variety of natural foodstuffs consumed by Europeans protects them from any deficiency of vitamins? My own clinical experience justifies no such belief; rather does it point in the contrary direction. Nor does it appear to be

the experience of the compilers of the thirty-eighth report of the British Medical Research Council, who write: "From a consideration of dietaries consumed by the poorer classes in the towns of Great Britain, one is led to suggest that no inconsiderable proportion of the population is existing on a food supply more or less deficient in fat-soluble factor"—deficient, that is to say, in a vitamin one of whose cardinal functions is to maintain the natural resistance of the subject against infections. That similar considerations apply in the United States also appears from the experience of Osborne, who asserts that a large part of the food eaten by civilized people have been deprived of vitamin B by "improvements" in manufacture, and of Hess, who emphasized that latent and subacute forms of scurvy due to insufficient intake of vitamin C are common disorders of infancy.

But the frequency with which deficient and ill-balanced foods are used is most apparent when the dietetic habits of persons in subnormal health are considered. It will surprise those who study them to find how many there are, of capricious appetite, who habitually make use of foods sometimes deficient in calories—for it is not the food presented to the subject that counts, but the food eaten and assimilated—and often dangerously deficient in one or more vitamins, in protein of good biologic value, and disproportionately rich in starch or sugar or fats, or in all three. Infants fed on many of the proprietary foods in common use come within the category of the deficiently fed, unless deficiencies are made good. The food of young children is commonly low in vitamin content, and in suitable salts and protein, while it is frequently disproportionately rich in starch and sugar—a circumstance which enhances the danger of vitamin deficiency. It may, indeed, be accepted as an axiom that the vitamin value of a child's food is reduced in proportion to its excessive richness in carbohydrates.

But the ranks of the deficiently fed include not only infants and young children: they include also those whose food is composed mainly of white bread, margarin, tea, sugar and jam, with a minimum of meat, milk, eggs, and fresh vegetables. Even among those whose diet is more perfectly balanced, the commoner articles of food, as they are prepared for the table, are so low in vitamin value that, unless they are enriched with a sufficiency of natural foods in the raw state, they are prone to cause ill health, and especially gastrointestinal ill health. Such is my experience in India, where this European patient "can not digest vegetables or fruit," and never touches them, "as they carry infection," or that one "suffers so from indigestion" that he or she lives chiefly on custards and milk puddings; where milk is, of necessity, boiled and reboiled until, as a carrier of vitamins, it is almost useless; where meat is made tender by the

simple device of boiling it first and roasting it afterward; where every third or fourth European child has mucous disease, the direct outcome of bad feeding. So it is that the forms of food which such as these so commonly adopt are those most calculated to promote the very disorder from which they seek relief.

Access to abundance of food does not necessarily protect from the effects of food deficiency, since a number of factors—prejudice, penury, ignorance, habit—often prevent the proper use and choice of health-giving foods. Who in the ranks of practicing physicians is not familiar, among the well-to-do classes, with the spoiled child of pale, pasty complexion and unhealthy appetite, of sluggish bowel, and often with mucous stools or enuresis, who, deprived of the wholesome ingredients of a well-balanced natural food, craves for sweetmeats, chocolates, pastries, and other dainties as devoid of natural health-giving properties as their excessive use is common? Constantly one encounters the anxious mother of the “highly strung,” “nervous” child “of delicate digestion,” whose ignorance of essential principles of feeding is only excelled by her desire to do what is best for her offspring; who, guided by the child’s preferences, supplies the means to convert it into a static, constipated, unhealthy skinned adolescent, equipped with digestive and endocrine systems wholly unfitted to sustain the continued exercise of healthy function. Or, again, who is not familiar with the overworked anemic girl, static and with visceroptosis, acne or seborrhea, and oftentimes with vague psychoses, who ekes out a paltry wage for teaching, sewing, or selling, satisfying the cravings of her tissues principally with white bread, margarin and tea? Or with the languid lady, devoid of healthful occupation, who, living in the midst of plenty, deprives herself, for some imaginary reason, of substances essential to her well-being? Or with the harassed mother of children, oppressed with the constant struggle to make ends meet, stinting herself that others may not want, exhausted by childbearing and suckling, worry, and too little of the right food? What wonder that such a woman is dyspeptic, and that “every bite” she eats “turns on her stomach.” Some there are, living in luxury, whom ignorance or fancy debars from choosing their food aright; others for whom poverty combines with ignorance to place an impassable barrier in the way of discriminating choice. It is for us so to instruct ourselves that we may instruct such as these, and use our newer knowledge to the end that customs and prejudices may be broken and a more adequate dietary secured for those under our care. We may, in our desire to promote the health, vigor, and fertility of our people, learn much from the practical farmer or stock breeder whose experience has taught him that all these evidences of normal functional activity

of the animal organism are dependent in the main on one great factor—perfect food supply.

CONCLUSION.

I trust that I have said enough to serve as an introduction to the study of this important subject, than which there is none more worthy of the consideration of those whose life is spent, or to be spent, in guarding the national health. It seems to me that in regard to it we have three obvious duties: The first, to instruct the masses as to what to eat and why they eat it; the second, to apply the results of our science to the production of natural foods in abundance and to their widespread and cheap distribution, rather than to the erection of institutions for the treatment of maladies due to their want; the third, and most important, ardently to pursue our investigations and the acquirement of knowledge. In no department of human endeavor are the words from the agrapha of Christ more pertinent than in their application to the study of the relations of food to health and disease:

Let not him who seeketh, cease from seeking until he hath found:
And when he hath found he shall wonder.



LITTLE TOBAGO, BIRD OF PARADISE ISLAND ∴ ∴

By HENRY D. BAKER,

United States Consul, Trinidad, British West Indies.

ABOUT 2 miles due east of the island of Tobago at its northeastern corner (Tobago is situated about 30 miles to the northeast of Trinidad, in about $11^{\circ} 9'$ north latitude and $60^{\circ} 12'$ west longitude) is a small island known as Little Tobago, covering about 350 acres, purchased about 10 years ago by Sir William Ingram, the well-known English publisher, for the purpose of becoming a sanctuary for birds of paradise. To this new home about 50 birds were brought from New Guinea, where they were obtained at considerable trouble and expense, both cocks and hens being included in the importation. At first the birds tended to diminish instead of increase in numbers, probably owing to initial difficulty in finding sufficient food and water, or to conflict with older and stronger local birds, yet in the struggle for existence, the fittest not only seemed to survive but, also, during the last three or four years to increase largely in numbers.

Negotiations have recently been concluded for the sale of Little Tobago, with its birds of paradise, to a citizen of Newark, New Jersey, who, it is understood, has planned to have constructed a large aviary, where a proportion of the birds might be inclosed within wire netting, reaching about 100 feet high and over the tops of fruit trees, allowing natural food, and covering sufficient area to permit of the maximum amount of exercise and freedom. With the birds thus kept in semicaptivity, it is thought it might be possible to observe their habits more closely, encourage their larger breeding, and especially to conserve all the molting plumes which otherwise might be lost in the dense woods of the island or be found only after they have become old and damaged. Apparently the purpose would be to put into this inclosure only a part of the birds on the island, at least until it could be demonstrated whether it would be possible to successfully farm them in the semicaptivity as planned.

The writer on September 7, 1921, made a visit of several hours to Little Tobago, a longer visit being impossible on account of the ne-

cessity of catching the coastal vessel *Belize*, which makes the trip around Tobago from Port of Spain, Trinidad, from Monday to Friday of every week. By permission of the local representative of Sir William Ingram, Little Tobago was reached by a rowing boat from a place called Spey Side on the mainland of Tobago. The row across the channel, which has a considerable current, can only be accomplished in good weather, and takes from an hour to an hour and a half. Little Tobago is saddle shaped in appearance, the highest parts rising over 500 feet above sea level, and densely wooded almost throughout. In the central depression is the house of the caretaker of the island, and near by are a number of pawpaw trees, which have



Photograph by H. D. Baker.

LITTLE TOBAGO, BIRD OF PARADISE ISLAND.

View from the mainland of Tobago. In the depression, about the center of the island, is located the house of the caretaker and his family, the only inhabitants. The small island in the channel to the left is Goat Island.

been specially planted with the object of providing abundant fruit for the birds at all times of the year. Before these trees were planted the birds of paradise had to depend mainly upon such insect life as they could find and on the wild fruit of the native Gartapple tree, which, when ripe, splits open into about eight petals, looking something like a star fish, inside of which are deep cavities filled with bright red berries, which the birds pull out with their beaks.

During dry weather there may be a serious scarcity of water on the island, and as the birds live in the tops of the trees, and are never observed at ground level, such water supply as they may obtain must ordinarily be in the hollows of trees, which might,

during certain periods, altogether dry up. The scarcity of water may have been the main reason why originally the birds, after being brought here, seemed to diminish seriously in number. Now, however, water pots, holding about 1 gallon of water each have been placed about 35 feet high in three of the most conspicuous trees of the island, in the part where the fruit trees are most abundant. These water pots are refilled about twice a month.¹

It is only the male bird or cock which possesses the brilliant golden plumage which has been so highly valued in the millinery trade. Both hens and cocks are chocolate colored throughout, except that the male bird has a slight streak of green about the neck, and between the months of May and January develops its famous golden plumage. The bird, exclusive of tail plumage, is about 7 inches long, the cock usually being slightly larger than the hen. Many of the cast-off plumes are found on the island, especially under the trees where water is now provided. Some of these plumes examined by me measured about 17 inches. The birds are now frequently noticed in all parts of the island, but usually only in the early morning from about 6 to 8 o'clock, or in the afternoon from about 4 to 6 o'clock. During the heat of the day they are rarely visible, probably at this time seeking shade in the recesses of the forest. During favorable times of the day, about their favorite trees, as many as 15 may be noticed in the tree tops at one time. Apparently the birds are tamest during the period of their bright plumage.

Little Tobago contains a variety of wild bird life in addition to the birds of paradise which have been imported here, including humming birds, yellow-tail birds, and the kind known as the "king of the forest." The birds of paradise seem friendly with the yellow-tail birds, with which they may sometimes at a distance be easily confused, the former birds, however, having longer necks and smaller heads, and the male bird, in plumage, a tail of golden and not yellow color. While the birds of paradise always stay in the trees, and eat only tree fruit or such insects as they can find about the trees, the yellow-tail birds are seen often about the ground, and are frequent visitors at a field of corn grown by the caretaker of the island, which the birds of paradise never touch. A number of sea birds are found about the coast, but apparently they do not interfere with the birds of paradise. There is never any danger of the birds of paradise attempting to cross the 2-mile channel which separates them from the mainland of Tobago.

An extraordinary fact about the birds of paradise on Little Tobago is that, although great effort and expense has been incurred to find

¹ The water supplied in pots in the trees is caught from the roof of the caretaker's house, but when not available there may be brought from the mainland of Tobago.

their nests, up to the present time neither nest nor egg has been discovered, so that breeding and nesting habits are quite a mystery. Possibly this might be solved by the aviary experiment as above mentioned. The birds seem active but nervous in their habits, and are not easily trapped, carefully avoiding anything of a new or suspicious nature.



THE FRUIT OF THE NATIVE GARTAPPLE TREE.

Formerly the principal food of the birds of paradise on Little Tobago.

PUBLIC HEALTH IN NICARAGUA

THE following extracts, very much condensed, from the annual message of the President of Nicaragua, with particular reference to the results achieved in the public health and sanitation campaign of that Republic, indicate the President's belief that the duty of a good government to *hacer algunas obras de progreso* is something more than a pious wish or mere words. President Chamorro says:

Public health, as I have remarked on a former occasion, occupies almost as important a place in the estimation of the Government as the preservation of law and order. The Government has therefore given it special attention, and in last year's budget a fairly large increase was provided for this purpose.

The inestimable services rendered by the Rockefeller Foundation must take precedence in any report on public health, and once again I take deep pleasure in giving public testimony of our gratitude to that institution. The director of the foundation in Nicaragua, Dr. Daniel M. Molloy, should be especially mentioned, for, with a perseverance, good will, and energy which we can never sufficiently eulogize, he has given a powerful impetus to the rapid execution of tasks whose completion I do not hesitate to say is imperative to the national salvation. With the cooperation of the foundation, the antihookworm, malaria, and mosquito campaigns have been waged, and a National Hygiene Institute established. Of each of these I will speak in detail.

Besides the hookworm campaign in Masaya, Leon, and Granada this year, intensive work was undertaken in the Department of Rivas where, due to cooperation given by

the authorities and inhabitants of the different towns and country districts and the use of energetic methods, exceptionally satisfactory results were obtained—that is, 41.23 per cent of those examined were actually cured; this is the highest percentage of cures which the Foundation has to date secured.

During the whole year the campaign against the *stegomyia* mosquito has been vigorously carried on at considerable expense to the treasury. Although the last case of yellow fever in Nicaragua appeared in 1919, the campaign has been continued with unremitting energy.

At the invitation of the Nicaraguan Government, the Rockefeller Foundation at the close of last year sent a sanitary expert to collaborate with the hookworm department in making the preliminary studies preparatory to fighting malaria, using the means which have proven so efficacious in the southern part of the United States. Parts of the cities of Rivas and Puebla were chosen for trying out these measures, the campaign beginning with the extermination of the *anopheles* mosquito in the chosen area, actually at the expense of the Rockefeller Foundation, but with a view to its being taken over later by the municipalities with Government aid. The experience obtained in the southern part of the United States shows that excellent results are within the reach of any community having public-spirited citizens and authorities mindful of the good of the community.

It is still too early to predict the final success of this work as related to the cost, but weekly house-to-house visits show that from June to the present date (December, 1921) there has been a decrease of more than 30 per cent in disease in general and of over 50 per cent in fevers. If the rate continues to fall for two months more, it can safely be affirmed that the results are equal to those secured in the United States—results easily obtainable by the residents of any district in Nicaragua, provided the Government pays for the direction of the work. It may be mentioned in this connection that the Nicaraguan assistant to the sanitary expert is being instructed in all phases of the work, so that he will be capable of directing the work in any locality. May I suggest to the Congress in the interest of public health that the sum of 3,000 córdobas be appropriated for extending the benefits of this work to other towns in Rivas and to cities such as Granada, Managua, and Leon?

Under the direction of the collector of customs an area in Corinto has been ditched and drained from the funds destined for port sanitation. This completes the work already undertaken and affords almost complete protection against the *anopheles* mosquito and consequently against malarial infection. The general manager of the railroad has also given valuable assistance.

In the further pursuit of public health the Government believes it has taken a most important step forward in establishing a National Hygiene Institute, the first of its kind in the Republic. In May the Rockefeller Foundation was invited to send a representative to study the situation and make the necessary recommendations. Readily complying with this request, the foundation in July sent Col. Frederic F. Russell, director of the laboratory department of public health of the International Sanitary Commission and formerly chief of the laboratory division of the Medical and Surgical Department of the United States Army. As a result of Col. Russell's detailed study of sanitary conditions it was decided to establish a central laboratory in Managua in charge of a bacteriologist and a pathologist provided by the Foundation to make all kinds of examinations for the diagnosis of contagious and infectious diseases, as well as the chemical and bromatological analyses for determining the purity of drinking water and the quality of foods. Branches of this laboratory will be opened in the Department capitals, more especially in Granada, Leon, and Rivas, where such routine examinations as those of human blood, sputum, etc., will be made by Nicaraguans trained under the chief of the central laboratory. In Col. Russell's opinion this simple program is sufficient for present needs, and at this time (December, 1921)

the Foundation expert, as well as the laboratory apparatus and supplies bought by the Government, are on the way.

As you will readily comprehend, this is the most important advance made since the beginning of sanitation in Nicaragua, as the accurate diagnosis of infectious and contagious diseases is one of the most vital factors in public health—above all when one takes into account that the laboratory, although modest in its beginning, will serve as a basis for the eventual upbuilding of an important National Hygiene Institute.

The commission named last May to prepare a bill for the reorganization of the sanitary laws is preparing to submit, shortly, the results of its labors, and I may state now that before 1922 is over we shall have a public health department organized on modern principles and served by modern legislation. Col. Russell and Dr. George C. Paul offered invaluable suggestions in the preparation of the bill.

A most important part of the sanitary organization is the instruction and training of young Nicaraguans not only in the technical but in the administrative branches of the service, and to this end Dr. Salvador A. Masís and Dr. Fausto Robleto are studying in the health centers of the United States.

Another progressive step in health matters was taken with the opening of a syphilis clinic in Managua in April, 1921—an endeavor to fulfill one of the primary duties of the State to better the physical and moral condition of the Nicaraguan people. Although this clinic was begun on a small scale, its reputation spread rapidly throughout the country, so much so that patients came in from every Department in search of relief. Half of the 72 patients in July were women and children. Extraordinary expenses connected with the War Department unfortunately compelled the closing of this clinic the 1st of November, but great satisfaction is felt in the cure of 358 persons.

There are other aspects of the public health work which also merit your attention. A portable X-ray apparatus, French Army model, has been ordered, so that before too long free X-ray service will be available for the poor. An excellent sterilizer of large size, the best ever sent to the Republic, with a microscope and various surgical instruments, was given by the Government to the San Vicente Hospital in Leon. A considerable number of instruments was presented at the same time to the Granada Hospital, while that in Managua received 1,000 córdobas from the Government to be expended in the purchase of necessary instruments. All this was in pursuit of the Government policy of promoting to the extent of its ability proper health facilities for the poor and for the working classes. * * *

The record of the medical attention given to the army of 4,000 men during the recent campaign in the north is worthy of your attention. Due to rough weather and prevalent epidemics, almost all the men were attacked by respiratory diseases or by malaria. An emergency hospital was established in Managua, while the patients not accommodated there were cared for either in their own homes or in the hospitals by Dr. Burgheim and Dr. Alberto López C. These physicians worked day and night for several weeks, giving the most expert medical care and using vaccines, serums, and every treatment ordinarily available only to the well to do. Of 2,000 cases of influenza, pneumonia, malaria, and dysentery thus cared for by the Government, only 4 were fatal, and those only because the patients were received in a dying condition. The medical service was so efficient that 95 per cent of the patients were cured and able to leave again for the north a month later. Thanks to the care and the almost superhuman efforts of the surgeon major of the Army, Dr. David Stadthagen, the treatment in the north and on the frontier was equally efficacious. The Government spared no expense in endeavoring to restore its soldiers to health, believing that in so doing it was simply fulfilling an elementary duty and that it was but a feeble recompense for the sacrifices which these loyal sons of our country were making for the peace and tranquillity of us all.

DELEGATES TO THE PAN AMERICAN CONFERENCE OF WOMEN :: :: :: ::

WOMEN in every part of the western hemisphere are now preparing to attend the Pan American Conference of Women in Baltimore, Maryland, from April 20 to 29. Already a number of the Pan American Republics have accepted the invitation extended to them through the State Department of the United States on behalf of the National League of Women Voters, and official delegates to the conference have been appointed.

The Republic of Peru was among the first countries to designate an official representative, announcing the appointment of Miss Margarita Conroy. Miss Conroy, though of English descent, is a Peruvian citizen and speaks both Spanish and English fluently.

The Brazilian Government has indorsed the appointment of Dona Bertha Lutz, who has been chosen by her countrywomen to represent the League for the Intellectual Emancipation of Women, of which she is the founder and president. Miss Lutz is recognized as one of the foremost women of her country, being the first woman to hold the office of secretary of the National Museum—a position won in competitive examination by Miss Lutz in a class of 18, all the others being men, many of them university graduates and professors.

The Governments of Chile and Ecuador, of Costa Rica, Nicaragua, Haiti, and the Dominican Republic accepted at an early date the invitation to participate in the conference. Madame Charles Dube, professor at the normal school of Port au Prince, has been appointed official delegate by the Government of Haiti, and the Dominican Republic will be represented by Miss Ana Teresa Paradas, one of the first woman lawyers of Santo Domingo. Other Governments have the matter under official consideration, but at the time of going to press the delegates were not yet announced.

The North American Continent will be represented not only by a group of prominent women of the United States but by large delegations from Mexico and Canada.

Many organizations of women will send special delegates to the conference. The Young Women's Christian Association of Brazil

has appointed Miss Lutz and Miss Beatriz de Souza Queiro, of Sao Paulo, as its representatives. The Association of Peruvian University Women Graduates will be represented by Miss Evangelina Antay. Several groups of Cuban women will send delegates, among them El Club Femenino de Cuba, which has appointed Mrs. Emma Lopez Sena de Garrido, and the Partido Nacional Sufragista, which is send-



MRS. CHARLES E. ELLICOTT.

President of the Maryland League of Women Voters.

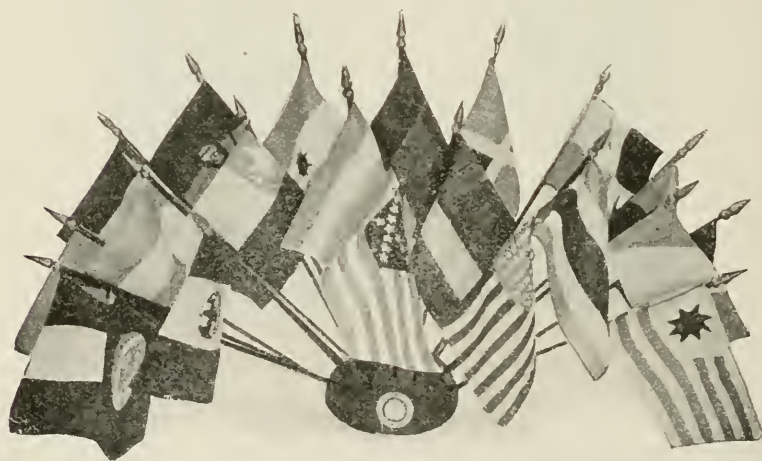
ing its founder and president, Mrs. Amalia E. Mallen de Ostolaza. The first Canadian organizations to accept the invitation of the League of Women Voters were the Catholic Women's League and the Big Sisters' Association. Women from Porto Rico and the Philippines will also join in the conference.

In addition to the official delegates and the representatives of organizations, many of whom probably will not be designated until the last moment, a long list of distinguished Latin American women

has accepted the invitations sent to them individually. The league will take pleasure in welcoming among these not only the women who are coming from long distances to take part in the meetings but women of Hispanic America who are now temporarily resident in the United States. Included among the latter are a number of young women students in the universities.

Extensive preparations are being made by the League of Women Voters and by the people of Baltimore and of Washington to entertain the distinguished guests who are coming to join in the Pan American Conference.

After the foregoing was in type, the BULLETIN learned that in addition to the delegates mentioned the following have been officially appointed: From Paraguay, Madame Maria F. Gonzales, Vice Principal of the Normal School, Asuncion; Argentina, Madame Le Breton, wife of His Excellency the Ambassador from Argentina to the United States, Mrs. Dickinson, representing The National Council of Argentine Women, and Dr. Alice Moreau, of Buenos Aires; Uruguay, Mrs. Celia P. de Vitale, representing the Suffrage Alliance of that Republic; Brazil, Miss A. D. Marchant; Chile, a delegate to be selected by the Student Organization. It may be added that President Harding will name a delegate at large to represent the United States, while Mrs. Jaine C. de Veyra and Miss Beatrice La Salle will represent the Philippines and Porto Rico, respectively.—(Editor's note.)



THE FEMINIST MOVEMENT IN LATIN AMERICA

BY SAMUEL GUY INMAN.

A VISITOR to South America finds to-day that there are three important social movements rapidly developing—the labor movement, the temperance movement, and the feminist movement. These are naturally very closely connected and the leaders in one are generally found very much interested in the others.

The first cause of the awakening of the women of Latin America is found in the growing interest in the outside world, which all people on the southern continent have so remarkably developed in the last few years. The woman's movement in these countries was at first simply a coming together of the higher class women for charitable purposes under the auspices of the church. In countries like Argentina, Uruguay, and Chile, where the woman's movement is the strongest, they have been gradually developing considerable independence and are now found to be working out their own problems. These are more largely concerned with social betterment, community service, the education of the poor, etc., than they are in the securing of the vote for women, although the latter is the principal platform in the organization of several feminist societies. A well-known woman educator of Argentina and a leader in the feminist movement thus describes the situation of women.

Spain has left her seal on everything. Her religion, her language, her customs, her social beliefs, are found in all lands south of the Rio Grande. Women have lived in this atmosphere and conservative spirit, so bound to tradition that in some of the South American countries the more liberal ideas are practically unknown. However, the desire for betterment has broken this conservative spirit in other Latin American countries, and feminism as a social rebellion, with all of its exaggerations, desires that it have a place assigned to it in the home, in the university, in business, and in the professions, sciences, and politics. The Latin American woman is a beautiful type of consecrated maternity, but her education is not sufficient to prepare her as a future citizen. Her devotion to her children is admirable and worthy of all praise, but she needs an education which will enable her to confront the problems of life. Let us take as an example the education that women receive in the Argentine Republic, since that is a country which is working toward a new life and an interchange of intellectual ideas with the rest of the world.

Intellectual education.—Education is obligatory from the sixth to the fourteenth year, girls taking the same courses as boys. After that age the girl seldom attends school. Her parents are contented to complete her education with a few courses in

music, painting, elocution, and languages. Courses on domestic economy, if given, are short and impractical. She enters society at a very early age. She is absorbed by light conversation and an ambition to make a favorable impression, is sometimes attracted to philanthropic organizations, generally of religious origin, and is surrounded by an entirely artificial atmosphere. The middle class girls quite often continue their studies by attending the secondary schools, commercial, normal, and high schools, etc. The majority of these become teachers, dedicating themselves most completely to this profession. Others, with greater ambitions, enter the universities, and with a perseverance worthy of all praise, push through their courses until finally they become doctors in philosophy, in letters, in chemistry, or in pharmacy. A number of such women become physicians, attorneys, and engineers. These are not natural ambitions, but are based on the desire to meet the exigencies of daily life. The working woman ends her intellectual education in the primary school. At 14 she is initiated into the factories or commercial houses. The Government has recently established night schools in order to help her continue her education.

Physical education.—Physical education is by no means satisfactory. Sport has become popular among a small circle of the cultured classes, but women of the middle and working classes have only enough spare time to secure the needed rest. There is to be noted, however, an attempt to secure playgrounds and parks, and some commercial houses are making worthy endeavors to awaken among women interest in sports. There are beginning to appear in the few public playgrounds some of the braver women. Excursions to the country are not frequent. The Argentine woman lacks the liberty which the North American woman enjoys. She must have her parents or some member of the family always with her, which naturally is detrimental to her independent development.

Moral education.—When physical education is deficient, moral education needs special attention. The restriction of liberty, an exaggerated prudence, the strict religious morality, the absence of comradeship between men and women, the excessive vigilance of parents in every detail of life, unfit the girl for the development of individual capacities and the meeting of the problems of life. The consequences of this education are easily seen. If woman is to be a companion to man, this lack of equality ought to be eliminated.

Let it be remembered that these observations on education apply to the advanced Argentine, not by any means to all South America. The social status of women in the various countries and the amount of freedom enjoyed in each differ so greatly that it is difficult to generalize, so it will be better to speak of the situation in each of the countries recently visited by the writer of these lines.

PERU.

Peru is, perhaps, one of the most conservative countries in South America. Were it not for a few and very notable exceptions, one might say that there is no feminist movement in that country. Fortunately, there are these brave spirits who have contributed greatly to the development of the woman's movement. In 1910 the Feminist Congress met in Buenos Aires, and the young delegate from Peru, Miss Maria J. Alvarado Rivera, contributed a paper which was published in one of the Lima dailies. This caused considerable

excitement among the more conservative elements in the community. In 1912 Miss Alvarado was invited to deliver a lecture on this subject before the Geographical Society. This brought to her aid a number of the most distinguished liberals of the city and resulted in the organization of a society known as "Evolución Femenina." The principles established by this society were the following:

(a) An ample culture which will enable women to carry out, efficaciously, their mission.

(b) Since the first need of a State is to develop motherhood, domestic sciences should constitute the basis of feminine education.

(c) The dignifying of work for women.

(d) The defense of women's rights.

(e) Equality of man and woman before the courts and in matrimony.

(f) Campaign against all social vices.

(g) Stimulating the performance of social and altruistic service.

(h) Adhesion to movements for peace and idealism.

A remarkable evidence that a new day is dawning for Peruvian women is shown in the recent passing of a divorce law which recognizes a number of rights which must be granted to women. The passing of the law was made a test of strength by both conservatives and liberals. The victory of the latter evidently means that in the next few years women will be called upon to take a much larger place in determining what part Peru shall play in the modern world.

CHILE.

The most compactly organized feminist movement I found in South America was in Chile. There are three large organizations which represent three different classes of people—the Club de Señoras of Santiago represents the women of the higher classes; the Consejo Nacional de Mujeres represents the school-teacher class; the laboring women have recently organized a very active society which is taking part in the bettering of their own conditions and the improvement of general educational and social conditions.

While Chile has been very conservative socially and ecclesiastically, her educational institutions were opened to women nearly 50 years ago. When Sarmiento as an exile was living in Santiago, he recommended the liberal treatment of women and their entrance into the university. This latter privilege was granted while Miguel Luis Amunátegui was minister of education. In 1859, when a former minister of education opened a contest for the best paper on popular education, Amunátegui received the prize. Among the things which he advocated in that paper was the permitting of women to enter the university, an idea which he had received from Sarmiento. The development of woman's education was greatly delayed by the war between Chile, Peru, and Bolivia. President Balmaceda was a great friend of

popular education. Under him the first national high school, or "liceo," for girls was opened, about 1890. There are now 49 national "liceos" for girls, all directed by women. Besides these, there are two professional schools for girls in Santiago and one in each Province.

The Consejo Nacional de Mujeres maintains a home for girls attending the university in Santiago, and does a good deal in various ways toward helping the women students in the capital city. There are nearly a thousand young women attending the University of Chile at the present time. A more wide-awake company of students will not be found in any of the world's capitals. The president of the Consejo Nacional is Sra. Labarca Hubertson. She and her husband both are directors of public schools in Santiago. The former was sent to the United States by her Government in 1914 to study the educational system. She then became very much interested in the feminist movement here, and on returning home was called to direct the Woman's Reading Club of Santiago. The conservative element of this club not caring to engage in community activities, but desiring only the intellectual work of a woman's club, the new Consejo Nacional was formed by the more progressive women. Sra. Labarca Hubertson has written several interesting volumes—one on women's activities in the United States and another on the secondary schools of the United States. She is accompanied in her work by a fine circle of women, most of whom are connected with educational work in Chile. Several women's periodicals are published in Chile, one of the most interest being *El Peñeca*, directed by Señorita Elvira Santa Cruz.

In an address recently given before the Club de Señoras of Santiago the well-known Chilean publisher, Ricardo Salas Edwards, stated the following:

There have been manifested during the last 25 years phenomena of importance that have bettered woman's general culture and the development of her independence. Among them were the spread of establishments for the primary and secondary education of women; the occupations that they have found themselves as the teachers of the present generation, which can no longer entertain a doubt of feminine intellectual capacity; the establishment of great factories and commercial houses, which have already given her lucrative employment, independent of the home; the organization of societies and clubs; and, finally, artistic and literary activities, or the catholic social action of the highest classes of women, which has been developed as a stimulus to the entire sex during recent years.

* * * * *

Simultaneously with this victory which woman has achieved within her own territory a natural force is again enlarging the field of representative government in Chile by increasing more and more the proportion of the inhabitants who participate in the election of the public authorities and, consequently, in determining the policies of the government.

Chilean women are quick to develop when given an opportunity. In this connection the case of a young woman who came to New

York about five years ago may be cited. Although at the time of her arrival she had only a reading knowledge of English, from the beginning she made her own living, and after a comparatively short time was delivering lectures concerning South America before some of the most exclusive women's clubs. In three years she became editorial assistant on the staff of the Pan American Magazine, published in English, and during a prolonged absence of the editor successfully filled that position. She has now returned to Chile and is giving her best to the education of girls and the development of the feminist movement.

The women of Chile are doing all kinds of work to help improve the social conditions of women and children. In the address of Sr. Salas Edwards, previously referred to, he made the following appeal, which is really a description of what the women of Chile are now doing in their various organizations:

Who are better acquainted than you with the miserable habitations of the majority of the laboring people; who know better than you that the scarcity of food, with the aid of tuberculosis and the social evil, is weakening the traditional vigor of the working classes; that alcohol and gambling wrest from the hands of innumerable laborers their children's bread; and that, as a consequence of all this, the number of those whom natural evolution ought to select as the best fitted to rise from their class is very limited, instead of this class being the stream to replenish the higher classes, as in the great democracies—this being a phenomenon which in itself reveals the gravity of our social ills?

* * * * *

How, without the cooperation of the public authorities, can we foster the rapid improvement of dwellings and the general health, and how can we honestly apply the existing restrictions upon alcohol, which our mayors do not enforce, if there be not felt in our municipalities, as in other countries, the direct action of the woman citizen who keeps guard over the family and the race; and how shall we succeed in securing, without her decided political activity, the just regulation of labor and the establishment of a system for the participation of the working man in the benefits of industry, which is the true and only solution of this artificial antagonism of interests?

The hour for doing something presses, although the political leaders of the present day are not aware of its passing. You, who feel and comprehend the sufferings of this people, are the ones who can best contribute to this undertaking, before the Chilean masses give themselves up in desperation to the agitators, and before the industrials, beaten by exorbitant demands, close their workshops.

If your activity can be useful in contributing to internal social peace, you are also well aware that the great thinker, President Wilson, has sought to found upon the sentiments of women future international tranquillity, and that, in order to remove the threatening dangers of a new armed peace, he solicited, in the conferences at Versailles, the universal recognition of the right of woman to vote.

In the happily-settled Argentino-Chilean question the attitude of the women of the two countries was a noble summons to harmony, which it was impossible to ignore and which caused things to be viewed with calmness.

President Alessandri, recently elected on a reform ticket, is an enthusiastic friend of the feminist movement. During his progressive administration women may be expected to gain a great many polit-

ical rights, as well as to have unhampered opportunity in rendering service to social development.

ARGENTINA.

The feminist movement of Argentina is much more complex and varied than that in any other South American country. Buenos Aires is such a large city, and there are so many different national and social elements, that movements here can not be analyzed in as simple and direct fashion as in other Latin American centers.

The Socialist Party has had considerable strength in Buenos Aires for a number of years. During the last three or four years the soviet movement has developed rapidly, and there are now some 280,000 inscribed members in this movement among the laboring classes. Many of these are women, and they are taking a very active part in the propagation of all socialist doctrines, often going to the extremes of bolshevism.

The Consejo Nacional de Mujeres is one of the most dignified and progressive of the women's organizations. It makes a careful study of women's movements in different parts of the world and invites distinguished lecturers to appear before it. One of the most important lectures delivered before this body recently was that by Dr. Ernesto Quesada, the distinguished Argentine sociologist. Those wishing a careful and conservative, though sympathetic, presentation of the feminist movement in Argentina would do well to read this lecture. Dr. Quesada advises the women of Argentina to work first on an educational program and, after they have attained equality before the law, then to take up the matter of political equality.

One of the most active of all Argentine women's organizations is the Club de Madres of Buenos Aires. They recently held their fourth annual "baby week" in the Capital. They had the cooperation of the best people of the city, including merchants, physicians, and Government officials. A large building in the heart of the city was placed at their disposal for their last exhibit, in June, 1921. They had worked out all kinds of charts, showing the infant mortality rate and the proper kind of nourishment and care of the young child, and gave out all kinds of information along these lines to visitors, to interest them in carrying out the purposes of this organization. One of the vital statistic charts showed that more babies less than 2 years of age died in 1914, in Buenos Aires, than the total of persons between the ages of 2 and 30. They announced the movement as a campaign of education—not an institution of charity; that since in Argentina out of every 8 children who are born 1 does not live to be 2 years of age, or, in other words, 43,800 children less than 2 years of age die every year, the Club proposed greatly to reduce this death rate. The competent president of this organization, known in all

parts of Argentina for her interest in social development, is Dr. Ernestina López de Nelson, the wife of Prof. Ernesto Nelson, who is well known to North American educationalists.

Buenos Aires has been, with Rio de Janeiro, one of the worst centers for white-slave trade. Probably for that reason the best women of the city have become particularly interested in the movement for the single standard. A distinguished Anglo-Argentine lady, Señora Blanca C. de Hume, has made important contributions by her writings toward the solution of this problem.

As early as 1912 we find that some of the farseeing women of Buenos Aires were making scientific studies of the condition of women workers. Señorita Carolina Muzilli published such an investigation for an exposition on social service in Ghent, Belgium, which was highly commended by the Government officials of her city. Her most interesting survey shows that even in 1919 there was a large number of women working in shoe factories, garment factories, and many other kinds of small factories in Argentina. As far as statistics were available, there were shown to be at that time 205,851 women wage earners in factories and commercial houses of Buenos Aires. These women were badly underpaid, having to work long hours with no privileges whatever, and always receiving less wages than men. When Miss Muzilli began her investigations she found prejudice so great that it was impossible to obtain data until she had gotten work in one of the factories. For several months she continued in these activities until she brought out this remarkable survey of the condition of working women, one of the very few scientific studies of industrial conditions for women ever made in Latin America.

Argentine law establishes a difference between the sexes against woman. The law limits her condition, excluding her from the management of family property, which, without condition, must be given into the hands of the husband. If the husband wastes the common property, the wife may solicit separation of their properties, if she has not, as is usually the custom on being married, assigned to her husband all property rights. The woman participates in the increase in value of the family property; but where there is a separation of this property she receives her personal property again and only half of the increase. Laws grant, under certain conditions, the separation of man and wife, but incapacitates them from marrying again.

The following are the demands of the Woman's Rights Association of Buenos Aires:

1. That all laws be repealed which establish a difference between the two sexes and against woman, in order that the latter may become fully competent before the law.

2. That women have the right to hold public office and especially to become members of the national and regional councils on education.

3. The establishment of special courts for children and women.
4. Passing of laws for the protection of maternity and for legitimatizing all children.
5. That all legal prostitution be abolished and that the single standard for both sexes be established.
6. Equality of wages.
7. Equal political rights.

The Young Women's Christian Association, which has been organized in Buenos Aires for a number of years, has done much toward awakening women to new interests in life. Although suffering from small quarters, they have gathered round them a number of the prominent women of Argentina, who are helping them in the conducting of night classes, gymnasium, cafeteria, and other services for girls working in stores and offices, and in the study of the general means of improving the womanhood of that progressive country.

Among the many activities which engage the attention of the women of Buenos Aires is that of temperance. This has come to be such an important work that they are now planning, with the aid of some North American societies, to erect a temperance building in Buenos Aires which shall house the various activities along these lines.

One can, therefore, look forward with confidence to the development of woman's work for woman in the great city of Buenos Aires. The Argentine women have always shown themselves to be full of ideas. It was a woman who suggested in the first place that the peace pact between Chile and Argentina be celebrated by the erection of a statue of Christ on the boundary line between the two countries. Thus the wonderful statue of "The Christ of the Andes," made out of the very cannon which were to have been used by these countries in destroying one another, now stands in its commanding isolation on the lofty Andes as one of the most impressive monuments in the world.

URUGUAY.

Uruguay is probably the most liberal of all the South American countries—most willing to try new ideas. It is therefore not surprising to find a very large circle of women in Montevideo who are active in all kind of movements for the betterment of their people. Uruguay is the only country in Latin America that has a woman's university. One of the best woman's magazines has long been published there. The headquarters of the Continental Temperance Society, which was organized by Uruguayan women, is located in Montevideo. It would not be surprising to see this progressive little country become the first of South America to grant votes to women. President Baltasar Brum, himself a young progressive of a marked character, in discussing this question recently, said:

With very little understanding of the matter, it has been affirmed that the triumph of feminism will destroy the fundamental morality of the family and of society. To contradict such an assertion, it is only necessary to remember that this has not happened in any of the countries which have decided in favor of the political equality of both sexes. Women vote in England, Germany, Denmark, Austria, Switzerland, Australia, the United States, and Canada, etc., without having originated the calamities announced by the pessimist. In regard to this matter it would be well to study the situation of women in both Catholic and Protestant countries. In the latter women are certainly treated with the greatest respect and consideration. They participate actively, on an equality with men, in all subjects of general interest. Their homes lose nothing in the matter of comfort, morality, and wholesome joy in comparison with Catholic homes, and their children are cared for with no less love and solicitude and certainly with more prevision than Catholic children. The political activities of the Protestant women have not, therefore, destroyed the fundamental morality of society nor have they disturbed the happiness of the family.

President Brum is the author of a projected law, now being energetically discussed by the Uruguayan Congress, which aims at nothing less than the granting of complete civil, political, and legal rights to the women of that nation. The projected law reads as follows:

The Senate and the House of Representatives of the Republic of Uruguay, convened in general assembly, hereby decree:

ARTICLE 1. We recognize the right of women to vote in person or by proxy in both national and municipal elections.

ART. 2. We recognize as belonging to women the rights and duties established for men by the electoral laws.

ART. 3. Women are equal to men before the law, whether civil or penal.

ART. 4.—All provisions contrary to the present law, except No. 3 of Article 187 and Article 112 of the Civil Code, are hereby set aside.

BRAZIL.

The remarkable development of the desire among the women of Brazil to get away from their old restrictions and to be of real service to their country, may be seen in the development of the Young Women's Christian Association of Rio de Janeiro. It was established in 1920. In the celebration of its first anniversary, a few weeks ago, it was able to report 1,200 members. The press of Brazil often carries important articles concerning women. Recently a bill was proposed in the National Senate to give women the vote. In a recent number of the "*Jornal do Commercio*," the most important daily in Brazil, an article covering a page was given over to an argument for women's rights. As is there said, "Only one of the Latin-American countries, Costa Rica, in Central America, has given the vote to women. In no South American country has she yet gained this right. Brazil ought to lead in doing this thing which most of the progressive countries of the world have already done."

One of the most remarkable demonstrations of the change in attitude in South America toward women was the recent visit of the president of the Woman's Christian Temperance Union of North

America, Miss Anna Gordon. Miss Gordon was received not only by the most distinguished women in each of the countries, but by the highest Government officials, including the Presidents of practically all the countries she visited. In Peru she was given a reception in the famous University of San Marcos, the oldest university on the American Continent and until recently one of the most conservative. In Chile she was also received in the Salón de Honor of the university, was invited to the homes of the best families, received by the President of the Republic, and given every honor that a distinguished visitor could be given. In Buenos Aires the principal women of the city gave her a reception at the Plaza Hotel, where the bishop of the Catholic Church and the bishop of the Methodist Episcopal Church appeared side by side, on the same platform, to advocate prohibition. A great meeting was held in the Colón theater, one of the most beautiful theaters in the world, where every nation was represented in tableaux advocating the cause of prohibition. In Montevideo and Rio de Janeiro the same honors were shown this modest little woman.

The limitation of space for this article has been reached, yet hardly a beginning has been made in indicating the important organizations and the attractive women leaders of the southern continent.

Students of Latin American social and political history will have noticed that while change may be difficult to bring about, once started it can run the whole gauntlet of transformation over night. It is clear that none of the three movements mentioned at the beginning of this article will be compelled to go through the long battles for recognition that have been necessary in other countries where their influence is now universally recognized. With the experience of others before them they will leap into prominence very rapidly. And here is found both their power for good and for evil. The world would indeed be much the poorer if it should lose the charming modesty, the beautiful femininity, the attractive reserve, the devotion to home and family which have made Latin American women admired the world over. Fortunately the danger of a very radical feminist movement in countries where for centuries certain restrictions have been woman's greatest protection is fully recognized by the women of these lands.

Not only modesty in conduct, but intelligence in improving social, economic, and educational conditions, rather than a vulgar campaign for "women's rights," mark the attractive personalities and persuasive programs which are guiding the women of South America toward taking their share in the world's work and bringing their influence to bear in the solution of the world's problems.

PREPARATIONS FOR THE BRAZILIAN CENTENNIAL¹

THE actual stage of progress in the preparation for the Brazilian Centennial Exposition presents the interesting aspect of a brilliant architectural contest.

The general direction of the work continues in the hands of the municipal prefect, Dr. Carlos Sampaio, who is putting forth the most vigorous efforts to insure the success of the coming event. His immediate aids are Messrs. Alfredo de Niemeyer, chief of the building offices; Rocha Faria, supervisor of construction; Octavio Moreira Penna, in charge of matters connected with civil engineering and materials. All these gentlemen are well-known engineers and were chosen for the present task in view of their high standing in that profession.

The execution of the artistic work, including architecture, sculpture, decorations, painting, etc., constitutes a veritable artistic contest carried on by Messrs. Morales de los Rios, father and son, Archimedes Memoria, Cuchet, Gastão Bahiano, Chambelain Brothers, Nestor de Figueiredo, San Juan, Rebacci, Armando de Oliveira, Julio Cellini, H. J. Pujol, jr., and many others whose achievement is a credit to the School of Fine Arts, of which they are graduates.

About 4,000 laborers, divided into gangs, are working day and night with might and main. And yet, notwithstanding the epoch-making speed with which the various national pavilions and the more massive buildings are being put up, there is everywhere visible the most punctilious care to combine absolute thoroughness with a high degree of perfection in every part. The pavilion being put up for the Departments of Communications and Agriculture, under the direction of Mr. Morales de los Rios, is an instance in point.

In front of the park are the sites of the permanent buildings which are to be erected by England and France, and which those nations will present to Brazil at the close of the exhibition.

The whole length of Avenida Wilson will be lined with foreign pavilions facing a thoroughfare 30 meters (100 feet) in width.

The principal entrance to the Exhibition will be on the Avenida Rio Branco, in front of Monroe Palace. In the last-mentioned building will be installed post offices, telegraph offices, and accommodations for the press.

¹ Extract from the *Gazeta da Bolsa*, Rio de Janeiro.

The monumental north arch, in the Brazilian colonial style, is the work of Mr. Morales de los Rios. Its decorations are inspired by the flora, fauna, and ethnography of Brazil, and constitute a splendid review of the material and historical past of Brazil. A feature of the arch which is worthy of particular attention is the varied use of tiles representing Brazilian plant life, and a series of wonderful shields bearing the heraldic arms of Rio de Janeiro.

The amusement park, designed by Morales de los Rios, will be a veritable palace of enchantment from the splendor of its installations and the endless variety of its diversions.

The Palace of Festivals and Lectures, designed by Mr. Archimedes Memoria, is a pentagonal building forming an immense hall 100 feet in diameter and 100 feet high surmounted by a dome and surrounded with galleries. Two intersecting passages furnish light for the various dependencies.

The installation of sculpture is well advanced. Here will be found such distinguished sculptors as Cunha e Mello, Magalhães Correa, Lacombe, and Kanto.

The old army barracks of the *Trem* have been remodeled in the colonial style and will constitute the Palace of the Industries.

The Palace of the States is an immense pile of reinforced cement, seven stories in height, which was constructed for the Companhia de Cimento Armado by the Paulistan architect Pujol, junior. This building is to house the exhibits of the various States of Brazil.

The Administration Pavilion, designed by Mr. Rebecchi, is a unique and charming specimen of modern architecture. It has two floors, both of which are provided with spacious salons.

The Palace of Minor Industries, the work of Nestor de Figueiredo and San Juan, is another splendid example of native architecture. This pavilion covers a front of nearly 200 feet and will be in the style of the eighteenth century. Without sacrificing the unity of classic proportions, the architects have succeeded in investing this building with a genuinely national character, not omitting even the broad eaves and the comfortable verandas of colonial days.

The Pavilion of Fisheries and Game, designed by Mr. Armando de Oliveira, is being constructed at the market landing. It is a fine building in colonial style, but original in the fact that it stands on wooden piles.

The buildings mentioned are those on which the work is most advanced. There are others, also very interesting, to which reference will be made in a subsequent issue.

The *Diario Oficial* is publishing a call for tenders for the transportation of passengers in Japanese cars about the exposition grounds. Tenders have also been invited for the establishment of bars, cafés, kiosks, and amusement booths on the grounds.

There is a growing interest in the prizes which are to constitute the *tombola* of the exhibition, the privileges of which are secured through the "independence bonds" or *Bonus da Independencia*. Among these prizes we might mention the one presented by the firm *Casa Oscar Machado*—a splendid piece of mahogany furniture with bronze inlay, containing a silver table service of great value. The American Chamber of Commerce has kindly consented to keep these independence bonds in its office in order to facilitate their purchase by members of the American colony.

In conclusion, the official awards by the jury of judges include the grand prize diploma, the honor diploma, the gold medal diploma, and the bronze medal diploma.

THIRD PAN AMERICAN CONGRESS OF CHILD WELFARE ∴ ∴ ∴ ∴

ACTIVE preparations are under way for the celebration, in Rio de Janeiro, of the Third Pan American Congress of Child Welfare, which will take place August 27 to September 5, 1922, in connection with the official program commemorating the centenary of Brazilian independence. The organizing committee, headed by Dr. Aloysio de Castro, includes Drs. O. de Oliveira, F. de Magalhães, N. Gurgel, A. Peixoto, D. E. Pedreira de Mello, M. Filho, C. Monrão, D. Nabuco de Abreu, A. de Faria, E. do Nascimento Silva, and A. de Rezende. Official delegates to this congress have been designated by Argentina, Chile, Ecuador, Peru, Paraguay, and Venezuela. Among the medical subjects to be discussed are: The feeding of infants and related disorders; cerebral tumors; alcoholism; infant pathology; encephalitic syndromes in children; epidemic or contagious encephalitis; infantile tuberculosis; infantile acidosis; and dysentery.

It should be noted that the sessions of the First Brazilian Child Welfare Convention will be held conjointly with those of the Pan American Congress.

Among other international congresses to be held in Rio de Janeiro in connection with the centenary celebration may be mentioned the International Congress of Engineers, the Twentieth International Congress of Americanists, and the Congress of American History.

A FAMOUS SEA FIGHT IN PAN AMERICAN WATERS.

By PATRICK VAUX.

LONG may it be ere naval hostilities are fought out off the coasts of the great American Republic, even in such minor degree as experienced during the Great War in the U-boats' sporadic raids. Yet away down the littoral of the continent to the southward the "real thing" has been encountered, and in several instances has left a mark in naval history. The war between Chile and Peru (1879-1881) * * * brought forth so admirable and staunch a sea officer as Admiral Miguel Grau—he that in the *Huascar* engaged two superior Chilean battleships, and made the stoutest fight in modern naval history prior to the 1914 outbreak. Apart from the fine heroism it educed, this engagement is of interest to all concerned in sea power, for it drives home the truth which was soon realized in the late war—the value of speed, *superior* speed, in securing the mastery of the sea. Superior speed is as needful as superior strength in armor and armament.

For some days previous to October 8, 1879, Admiral Grau with the *Huascar*, and the *Union*, a steam corvette, had been continuing his operations, menacing the ports of Chile, and interrupting the transportation of troops and stores and Chilean sea trade. In the very early morning of the 8th he sighted the *Blanco Encalada* and *Cordoba*, together with the *Matias Cousiño* but, hampered by strict instructions forbidding him to risk Peru's two sole effective units, he refused the great advantage given him and made into the southwest at full speed. At 5.40 finding the enemy were falling fast astern, he gave orders to steer northward, and being nearly worn out he went down to his stateroom and slept. It was his last sleep.

At 7.15 that morning the *Huascar* sighted rising smoke in the northwest, and standing over to reconnoiter found the *Almirante Cochrane*, *Loa*, and *O'Higgins*, forming the Chileans' second division, in search of her. Grau on having been aroused headed for eastward, and put his engines at full speed. Though some five weeks previously he had asked in vain that his battleship be sent to Callao for overhaul, her bottom being now very foul and speed impaired, he was confident that at her 10.75 knots, the *Union* steaming 12, he could evade an encounter. Some 30 minutes later, on the Peruvian flag officer perceiving the *Almirante Cochrane* was finding his heels, he flagged

the *Union* to make for Arica. The *O'Higgins* and the *Loa* chased her all day and until night fell, but could not bring her to action.

Meantime the two Chilean battleships, *Almirante Cochrane* and the *Blanco Encalada*, were converging on the *Huascar* as she sought to escape into the northeast. At 9.10 the *Almirante Cochrane* was within 4,000 yards, and capable of crossing the Peruvian's bows, the men of which therefore were sent to their quarters. The admiral, alone, went abaft and into the conning tower.

The Peruvian commander in chief can not be held entirely responsible for having been caught between the pincers of the Chilean's



ADMIRAL MIGUEL GRAU.



ADMIRAL JUAN JOSE LATORRE.

two divisions. Not only were his forces deficient in scouts, and lacked organized communications, but naval affairs were being woefully mismanaged by General Prado, who personally was on hostile terms with the commander in chief owing to the latter's methods of thoroughness and initiative.

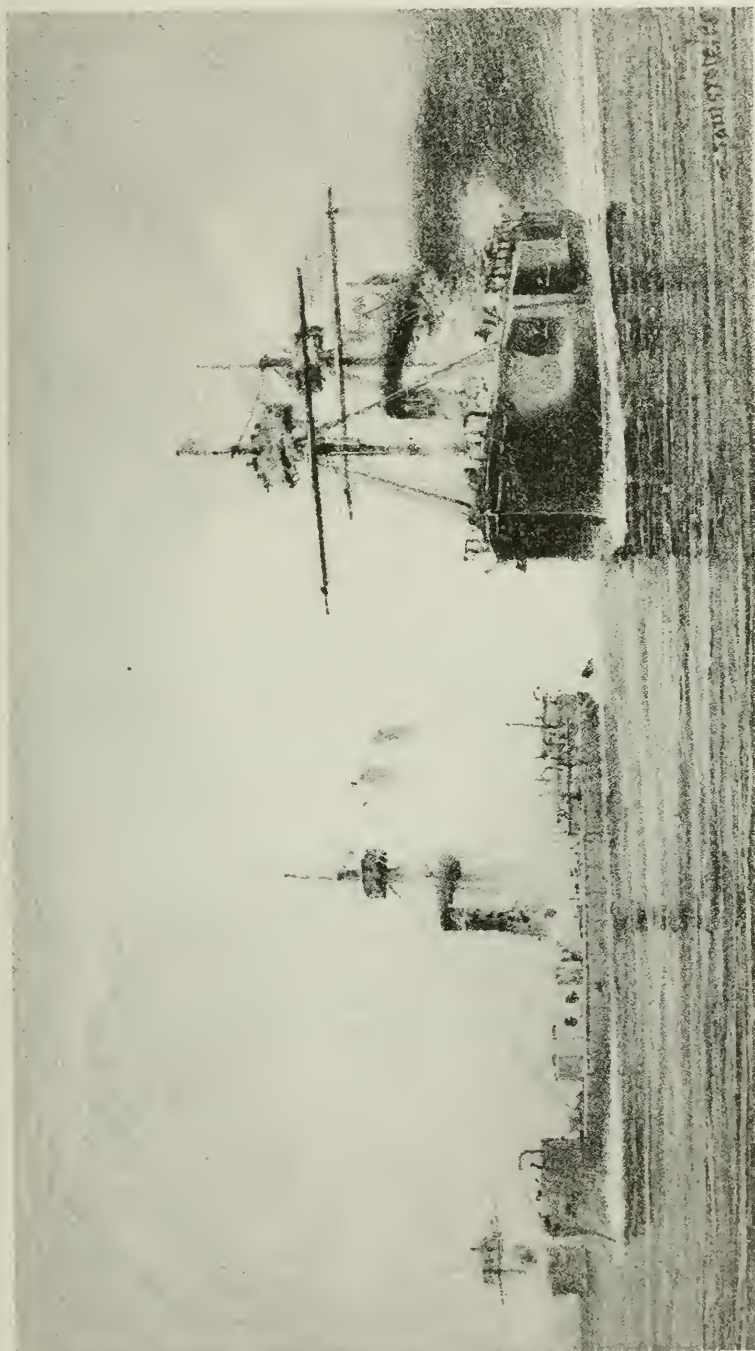
The *Huascar*, of 1,130 tons displacement, 1,200 horsepower, and a complement of 200 officers and men, carried two 10-inch muzzle-loaders mounted in a turret well forward, one 40-pounder on each beam, and one 12-pounder on her afterdeck, together with a Gatling in her top. Her side armor was $4\frac{1}{2}$ -inch, and turret from $5\frac{1}{2}$ to 7 inch steel. The Chileans were of much heavier tonnage. Each displaced 3,560 tons, were protected by 8-inch armor on their batteries and 9-inch amidships on the water line belt, and had a protective deck of from 2 to 3 inch steel. Their main armaments of six 5-inch rifles were mounted inside a central box battery. It has to be noted also, that the "dead sectors" of the circle of which the middle of the *Huascar's* turret was the center were, one of 40° forward and 50°

abaft the turret—one-fourth of the entire circle. On the other hand, the Chileans could each bring to bear three heavy guns on the beam, four heavy guns forward, or two guns aft, and had no “dead sectors.” While they could always bring some of their pieces to bear on the *Huascar*, she in many positions could bring her guns to bear on them only through sheering. Her conning tower, hexagonal in shape, $7\frac{1}{2}$ by 8 feet wide and some 5 feet long, was of 3-inch steel backed by 8-inch teak. Its top was uncovered though sheltered by the navigating bridge. Placed between the smokestack and the turret, it was a death trap.

The Chilean battleships, which were faster than the *Huascar*, and commanded by most capable officers, under Flag Officer Commander Latorre, presented a very formidable obstacle to the *Huascar's* escape. The Peruvians, however, had full confidence in their commander in chief. Quiet, unassuming, but exacting strict discipline and routine, Admiral Don Miguel Grau, a native of Piura, was a naval officer of the highest capacity and bravery. His men worshipped him. Their stubborn fight after his death testifies to his influence. Not Grau, but the inefficient naval organization and direction against which he strove in vain brought defeat to the *Huascar*. Had the gallant officer's previous advice been acted upon, the fight of Angamos, if not the course of the war, might have had a different ending.

At 9.25, when the engagement was opened, the *Blanco Encalada* was 5 miles astern, the *Covadonga* was still at a hopeless distance, but the *Almirante Cochrane* only 3,000 yards off the Peruvian's port shoulder. It was then that the turret ship opened fire with her 10-inch guns. The first projectile went wide. The second, ricocheting, hit the unarmored part of the *Almirante Cochrane's* bows, wrecked the forecastle galley, and fell unexploded on her fore deck. Not till she was within 2,000 yards did the Chilean return the fire; then her broadside broke out, the projectiles sweeping across the *Huascar*. One shell pierced the port armor, entered the turret chamber, set fire to the woodwork, and killed and wounded 12 seamen working the winches turning the turret overhead. The turret tracks were jammed with wreckage, and for 10 minutes the 10-inch pieces were out of action. Meantime the *Almirante Cochrane* took a wide curve, and came on a course almost parallel with her foe. One of the *Huascar's* 300-pound Palliser chilled shells ruptured her starboard side armor, but did no serious damage.

The Chilean flag officer made effective use of his battleship. Stationing her astern of the enemy some 1,300 yards, he brought all guns bearing into group-firing and from the three military tops of his barkentine-rigged vessel he directed a sharp fire reinforcing the Nordenfeldts on his bridge and forward superstructure. The Peruvians were



From *Los Combates Navales*.

THE BATTLE OF ANGAMOS, OCTOBER 8, 1879.

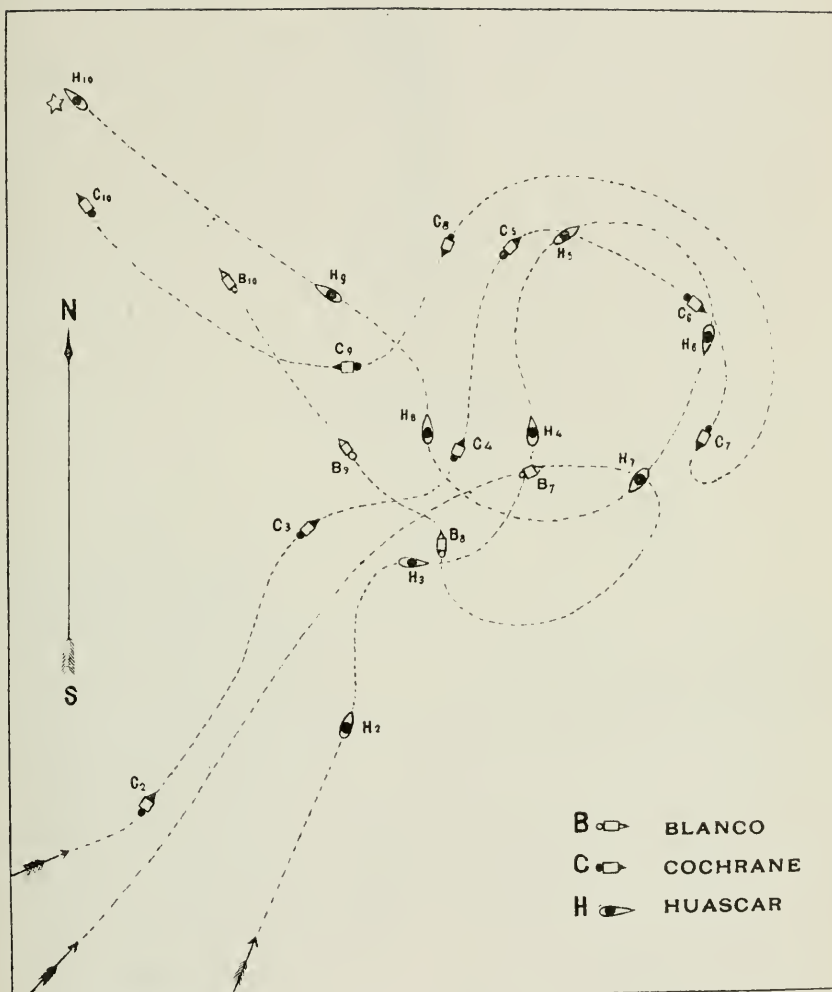
In the foreground is the *Almirante Cochrane*, in the center the *Huascar*, and in the background the *Blanco Encalada*.

cut down at their unprotected gun positions, the latter becoming untenable. The gun crews were driven below to take shelter behind armor.

At 9.40 a. m., when the two thundering battleships were almost abeam of each other, Admiral Grau made up his mind to ram, and the *Huascar* swerved to port sharply. The *Almirante Cochrane* turned to port also, and evaded the blow. Five minutes later a shell from the Chilean struck the top of the conning tower, burst inside it, and blew the gallant Peruvian commander in chief to atoms. The right foot was the largest piece of this fine officer's body that could be found. Part of the projectile disabled the fighting wheel below the tower and separated from it by a wooden grating; and the vessel swerved to starboard. Officers hurried to the disaster, and groping through the smoke and darkness at the base of the tower came upon the body of Lieutenant Ferré, navigating lieutenant, killed by the concussion of the explosion as he had stood at the fighting wheel.

While repairs were being effected on the steering gear, the turret-ship fell away to starboard, the *Almirante Cochrane* keeping abeam of her. As the Peruvians were training their 10-inch guns upon her a shell perforated the turret and burst with terrific force, yet without damaging the guns. "Reliefs" immediately remanned them. The *Almirante Cochrane*, sheeted in smoke and flame, kept up a steady fire of concentrated broadsides on the *Huascar's* turret and upper works. The Peruvians' superstructure was shot away. Her boats were smashed into splinters, and davits, ventilators, chain plates, bulwarks and rails twisted and pulverized. Her capstan was carried overboard by a projectile striking it. Lieutenant Rodriguez, when looking out of the port gun aperture of the turret, had his head blown off by a shell. The ward rooms and cabins were crowded with wounded and dying. But their comrades, now under Commander Aguirre, remained at their posts, the firemen showing conspicuous coolness.

The *Almirante Cochrane* sought to ram. Discharging her starboard forward gun, she steamed down, but missed, and slid past 5 yards astern of the Peruvian, firing heavily. A shell penetrated the *Huascar's* starboard quarter, blew a gap in the lower deck, and she had her steering gear wrecked again. The turret ship staggered to starboard while steering tackle was being rerigged, and was hit amidships in the engine room, though the machinery was not damaged. When brought under control, she steered badly, and had to be conned by Commander Aguerre from one of the turret sighting hoods, orders being passed below to the turret, and thence to the lower deck and aft by messenger. Again the Chilean tried to ram, but the Peruvian evaded her, and the *Almirante Cochrane* narrowly escaped collision with the *Blanco Encalada*, now coming into the engagement, and was



From *Los Combates Navales*.

THE BATTLE OF ANGAMOS.

Plan showing the successive positions of the battleships. The star indicates the point at which the *Huascar* was taken.

raked by the *Huascar's* fire. The broadside of the *Blanco Encalada* swept the Peruvian's stern. The gout of shells wrecked wardroom, and cabins, killing many of the wounded, together with the men at the extemporized steering gear in her aftmost cabin, and rupturing the 5-inch steel bulkhead.

The wounded Peruvians were carried through the narrow hatchways and down the ladders into the stokehold, and placed for safety in the bunkers. Huddled together upon the coals in that suffocatingly hot atmosphere, black with coal dust and the horrors of forthcoming doom, they awaited the end. Says one of the engine room crew, "Not a whimper came from them. We were Grau's own men!"

The Peruvian flagship was now holding erratically eastward. She was out of control, her mast was shattered, smokestack and conning tower were mere scrap metal. Her guns were all out of action; only the port muzzle-loader of the turret could be fired. Smoke, soot, and the fumes of burning woodwork filled the boiler room and bunkers, and spread in thick clouds along the lower deck. The water in one of the boilers falling too low because of the wrecked "feed" tubes became burnt through, and immense volumes of steam sizzling through the gaps in the ruptured hull made the Chileans think the stokehold was wrecked. The firing died down, for the *Huascar's* flag being shot away, it was believed she had surrendered. But a seaman ran along her crumpled afterdeck and hoisted fresh colors at the gaff. Immediately the raging of the Chileans' guns broke the murky silence.

An 8-inch shell lopped on to the breech of the disabled starboard 10-inch gun and filled the turret with dead and dying. Not a man escaped, including Commander Aguirre, who was horribly mutilated, sawed to pieces by the chips and splinters of metal.

The *Huascar* by now was on fire in her upper and lower decks, in particular over the forward magazine. Her hull above water looked as if gigantic picks and pickaxes had been plied upon it, tearing it out of shape. Fires were falling off in the boiler room and she was losing speed. Yet her fourth officer, Lieutenant Garczon, now in command, held her up to resistance.

"We were Grau's own men!"

In the battered turret the human remains clogging the port gun were cleared away and a fresh crew brought it into action. Firing spasmodically the *Huascar* lurched about, escaping the *Almirante Cochrane's* renewed endeavor to ram as if she were a human thing endowed with instinct to live. It was now the Chilean flag officer who signaled the *Blanco Encalada*, and the two battleships took up station to port and starboard of their enemy and plied her with their broadsides. By this time the *Covadonga* was within range and also opened fire with her two 70-pounders.



THE GRAU MONUMENT, CALLAO, PERU.

A few minutes later, at 10.50 a. m., Lieutenant Garezon and the few surviving executive officers on board the *Huascar* recognized their fate. Orders were passed to the engine room to open sea-cocks and sink the ship. On deck towels and handkerchiefs were waved, whereupon immediately the firing ceased. When the Chilean boats boarded her, Lieutenant Simpson of the *Blanco Encalada* on hurrying below, revolver in hand, found the *Huascar's* engineers at work on the bonnet of the main injection valve and already up to their knees in water. In five minutes she would have been settling to the bottom, for already she had between 4 and 5 feet of water in her hold and many of the shot holes in her sides were coming awash. As the sea was calm and the pumps were in order it did not take long to free the prize from water and to put out the fires. During that afternoon the *Huascar* was escorted into the neighboring port of Mejillones, where she was temporarily repaired before leaving for Valparaiso.

During the action that lasted some 90 minutes she had, out of her crew of 200 men, a casualty list of 90 killed or wounded, her four senior officers, inclusive of Admiral Grau, being killed outright. Her opponents suffered some 20 per cent loss in personnel and remained wholly seaworthy.

Seldom has any ship of war of any nation made a more obstinate defense.

"We were Grau's own men!" Not often does any officer render such a splendid proof of his worth and influence. His few remains were buried at Santiago with full military honors, and throughout Chile as well as Peru and Bolivia his death brought forth, universally, expressions of signal regret.

It is noteworthy that many of the deductions of Lieutenant Mason, United States Navy, in his official report, as eyewitness, to the Secretary of the Navy on this engagement, became subsequently embodied in the United States Navy.



MEDICAL DIPLOMACY

BY THEODORE C. Lyster, M. D.

Of the International Health Board, Director of Yellow Fever Control for Mexico and Central America.

SINCE the middle of the last century we have seen many different methods employed in the attempt to adjust our international relations with American republics. Too often we have resorted to threats in the form of ultimatums, and even, at rare intervals, to the use of armed forces. Following the Spanish War and the acquisition of the Panama Canal Zone, our position in Latin America was one of extreme delicacy. Relations were even more tautly drawn by our intervention in 1914 in the internal affairs of a neighboring republic.

Anyone who has lived in Latin American countries before, during, and since the recent war can not help but observe the change in their attitude toward us.

Two great educational factors, together with the lesson of the war, have done much to crystallize opinion in the Americas. The first of these was the influence exerted by the construction of the Panama Canal, far more effective even as an object lesson than as a sanitary or engineering feat. Its teachings were carried to the furthest and simplest of isolated American homes. The second was the establishment of the Pan-American Union founded on the ideal of equal international rights; offering a neutral zone as a place for the discussion of inter-American relations, and acting as a distributing agency for data valuable as common knowledge.

With the signing of the armistice there developed a universal readjustment, and antagonistic influences were either obliterated or materially lessened. Almost immediately an invitation was sent broadcast to all nations to resume closer international relations and to make reconstruction possible. Toward the close of 1918, Ecuador was one of the first Latin American nations to materially change her international policy. She now invited, instead of resisted, foreign assistance in the development of her national resources. Sanitary conditions, however, in her chief port were such as to discourage this. American cooperation was asked and given, with the result that Guayaquil soon became an open port, following in the footsteps of

Habana, Rio de Janeiro, Panama, Vera Cruz, and the Amazon ports—areas long known as danger zones, especially to the traveling public. At this time epidemic conditions were most unfavorable in Central America and Mexico. The unsettled political status in every one of these republics made international relations most unsatisfactory. The mere handling of epidemics, when once sufficient authority had been obtained, was an old story, and reasonable assurances of success could be given, depending upon the available supply of well-trained personnel and ample funds. Here, however, it was not sufficient simply to establish good relations with one republic, or one republic after another, but success depended upon uniting all, at one and the same time, for the purpose of eliminating a disease—a common enemy to them all. Its successful elimination was not made easier by the fact that each country discouraged rather than encouraged closer relations.

For over a quarter of a century each rainy season had seen a spread of yellow fever along the western and southern borders of Mexico and through Central and South America. As well expressed by President Obregon, "Diseases are no respecters of international borders or of diplomacy." The experience of the past had taught the lesson that no sooner had one country been freed than another developed the disease, thus completing a vicious cycle and perpetuating it from one year to the next.

Just as though the undertaking were a military one, good strategy required absolute control and consolidation of each area, later combining the areas so as to present a single front. The short time available and the character of the mission complicated the problem. No doubt it could have been met in various ways, but of this we can not be certain. One fact, however, is positive—that the method finally adopted has not only been successful in bringing six countries under unified control, but has evolved a means of so linking the boards of health of these various countries that not only has one disease been controlled, but the machinery developed to meet other international pests.

The method referred to might be termed the *Presidencial Acuerdo* idea of applying internationally the principles of preventive medicine. (There have been occasions when the United States has joined forces with another American republic to combat an epidemic, but never before has it been able to group together practically all of the countries of a continent for a common purpose.)

The term "*acuerdo*" is a Spanish one, meaning an official public act, and in this instance one signed by the president of a republic. An *acuerdo*, even when signed by a president, would be of doubtful

value unless it had the active support of those responsible for its enforcement. Therefore, in preparing an *acuerdo* certain factors were deemed essential:

First, that a commission should be named which would be of international character and yet would be under the direct administration of the president of the board of health of that country.

Second, that the commission be given an official status as a part of the public health organization.

Third, that sufficient funds be provided.

While in Salvador in September, 1919, facing a yellow fever epidemic which threatened to spread further and more rapidly than at any time during the last 25 years, the seriousness of the situation and the unpreparedness made mandatory some broader method of control. International team work was the answer. A memorandum was submitted to the President of Salvador, which in form and spirit was approved by him and issued as follows:

With the object of obtaining the cooperation of the persons of this capital and the remainder of the Republic of Salvador for limiting the spread of yellow fever, we publish the following data as a guide and information for the public.

EXECUTIVE POWER.

NATIONAL PALACE OF SALVADOR,

San Salvador, October 1, 1919.

The Executive Power, at the request of the Superior Board of Health, and in consideration of the necessity of outlining effective methods, which will prevent the spread of yellow fever in the Republic, establishes the following:

1. There is created a scientific Commission in charge of combating this epidemic, whose attributes will be as follows: (a) Isolation, treatment, and autopsy, conforming to the laws of the country, and without prejudice to the rights of those to whom the body belongs. (b) All antistegomyia work in the Republic.

2. The police will always give cooperation at the request of the Commission, in compliance with these orders.

3. The Superior Department of Health will transmit immediately to the Commission reports, which in conformity with the law should be made by the doctors, of all suspected cases of yellow fever which appear in the Republic, and at the same time the Department will publish instructions which will relate to the control or prevention of yellow fever and which have been submitted by the Commission created by this present act.

4. For carrying out the purpose of the Commission there is laid aside 10,000.00 colones (\$5,000.00), which will be placed to their order; carried officially as expenses for the installation and maintenance of the respective offices, and for other services of like character. This appropriation will be carried as part of Article 26 of the Budget.

5. The Commission will have telegraphic, telephonic, and postal privileges, and passes will be issued for use on all railroads of this country.

6. For fulfilling the purpose and objects formerly enumerated, there is named as Director of the Commission referred to Don T. C. Lyster, and as members—Doctors

Salvador Rives Vides, Carlos A. Bailey, Wenceslao Pareja, and Salvador Peralta L., who have expressed their humanitarian sentiments in accepting the responsibility to carry on this work.

Communicated.

(Signed for the President.)

ARGUELLO L.,

Subsecretary of Government.

In rapid succession the Presidents of Nicaragua, Honduras, and Guatemala issued similar *acuerdos*, followed in 1921 by Mexico and British Honduras, thus making a united front of six nations all cooperating with the Rockefeller Foundation to place a disease in the archives of medical history as a relic of a former generation.

While the principles underlying this international policy were made useful in preventive medicine, this by no means should be considered as a limitation of their application. These same principles may by adaptation be of some future use in a diplomatic way toward cementing closer and better relations with our neighbors.

DR. AMARO CAVALCANTI

DR. AMARO CAVALCANTI, educator, author, jurist, and statesman, and one of the most efficient pioneers of Pan Americanism, died in Rio de Janeiro on January 28, 1922, after a long and distinguished career in the service of his country.

Dr. Cavalcanti was born in Rio Grande do Norte on August 15, 1851, the son of Maj. Amaro Cavalcanti Soares de Brito, a primary school teacher, and Dona Anna de Barros Cavalcanti. After completing his course in the humanities, he won, through a competitive examination, a Latin professorship in Ceará. Soon after, the provincial government commissioned him to study the conditions of primary instruction in the United States, and while in that country Dr. Cavalcanti took advantage of the opportunity to study law at Union University, from which he was graduated in 1881.

On Dr. Cavalcanti's return to Brazil the same year, he was admitted to the bar and appointed inspector general of public instruction for the State of Ceará and director of the secondary school. His national and international public career began in 1884 with his election as deputy to the General Assembly. He was subsequently and successively one of the lieutenant governors of his native State,

senator, minister plenipotentiary to Paraguay, deputy for the second time, Minister of Justice and of the Interior, legal adviser to the Department of Foreign Affairs, delegate to the Third International American Congress, justice of the Supreme Court, delegate to the Pan American Financial Congress which met in Washington in 1915, member of the extra-parliamentary committee on the Civil Code, member of the Hague Court of Justice, and governor of the Federal District.

In this last office, to which Dr. Cavalcanti was appointed in January, 1917, he gave a great impulse to the agricultural development of the lands lying beyond the outskirts of Rio de Janeiro, while at the same time he promoted material improvements such as the construction of an excellent system of public roads in the District, and street widening and extension in the city itself.

Dr. Cavalcanti who, in addition to his public duties, had for many years carried on the practice of law with distinguished success, was at the time of his death president of the Brazilian Society of International Law; active and honorary member of the Institute of the Order of Lawyers, and of the Brazilian Historical and Geographical Society; and professor of finance in the Academy of Higher Studies. He was the author of a large number of works on teaching, finance, political economy, law, and other important subjects, included among them being several standard authorities in the advanced schools and legal practice of the country.

The loss of Dr. Cavalcanti is keenly felt in this country as well as in Brazil, not only because he has been in close touch with our leading men and events since his residence here in early life, but because of his unceasing activity in Pan American affairs, to which he devoted a great part of his thought and efforts up to the time of his death.



SIGNIFICANCE OF THE TRADE DECLINE OF 1921

By WILLIAM C. WELLS,

Pan American Union Staff.

TRADE between the United States and Latin America for 1921 showed a decline of \$1,806,043,270 as compared with 1920. United States imports from Latin America were \$1,075,866,525, and exports to Latin America \$730,176,744 less in 1921 than in 1920. The decline in imports was over 60 per cent and in exports near 50 per cent.

It is not unreasonable that such a decline as this has created apprehensions in the minds of Latin Americans that they were losing their market in the United States and likewise in the minds of American exporters that they were losing their Latin American market.

Take the case of four Latin American countries, Cuba, Argentina, Brazil, and Chile, the aggregate of whose exports to the United States represents two-thirds or more of the total imports of the United States from all Latin America. In 1920 this aggregate was \$1,277,575,966 and in 1921 only \$433,561,644. The comparison explains the uneasy feeling in Latin America as to the future of their products. United States exports to the four countries fell from \$940,859,163 in 1920, to \$383,152,808 in 1921. The loss in imports in round numbers was two-thirds and in exports two-fifths.

Notwithstanding the figures for the full year's trade are only just now available, the monthly reports during 1921 and the experiences of importers and exporters have made known the general fact that there was occurring a tremendous falling off in trade. Unfortunately the facts have been very generally misinterpreted both in Latin America and in the United States and the facts themselves are thrown out of proportion by a failure to comprehend that the conditions of 1920 were abnormal in the extreme, especially abnormal as to prices upon which the valuation statistics are based.

Compare 1921 with a normal before-the-war year, e. g., 1913, and we find that the interchange of products has about doubled, or go back five years further, 1908, we find it has increased three times over.

Trade of the United States with Latin America.

	Imports from Latin America.	Exports to Latin America.	Total trade.
1908.....	\$271,915,338	\$216,999,931	\$488,915,269
1913.....	426,936,266	316,560,433	743,496,699
1921.....	691,127,334	758,124,997	1,449,253,331

It is only when we compare 1921 with 1920—imports, \$1,766,993,859; exports, \$1,488,301,743; total, \$3,255,295,601—or with 1918 and 1919—totals \$1,791,175,136 and \$2,253,558,234, respectively—that we find any falling off in trade. Much of this decline was a price decline. True trade statistics are of quantities, values are secondary. In 1920 the United States exported wheat flour to Central America, Mexico, Cuba, Brazil, and Venezuela to the value of \$35,817,990; in 1921 the value was \$18,478,180. This shows a value decline of over 48 per cent, which is almost exactly the decline in all exports to all Latin America. The quantity decline, however, was only a little over 20 per cent; from 2,870,720 barrels in 1920 to 2,267,649 barrels in 1921.

The export of bleached cotton cloth to Central America, Mexico, Cuba, Argentina, Brazil, and Chile fell off from \$22,879,296 in 1920 to \$4,529,560 in 1921, a loss of 80 per cent in value, but the loss in quantity was only 60 per cent, from 78,599,978 yards to 30,864,869.

The export of unbleached cotton cloth to the same countries—except to Brazil for which the figures are not available—declined in value near 24 per cent, from \$5,880,646 in 1920 to \$4,553,332 in 1921, but the quantity increased over 100 per cent, from 26,160,242 yards in 1920 to 54,755,351 yards in 1921. Here we have a very large increase in trade which appears on the valuation basis as a loss.

In most textile exports there was a slight decrease in quantities and a large decrease in values. In metal goods on the whole there was a substantial decline in most lines, running from 10 per cent to 50 per cent, but there was a margin of from 20 per cent to 30 per cent between quantity exports and value exports, with declines greater in the latter.

One of the largest declines was in the case of automobiles. The export of both commercial and passenger machines to Mexico, Cuba, and Argentina in 1920 was 18,383 machines, value \$24,186,770, and in 1921 was 10,844 machines, value \$9,478,611. The decrease in values was 60 per cent and in quantities only 40 per cent. Owing to the fact that automobile exports to Mexico increased both in number and in value the decline in exports to all Latin America were greater than the figures for the three countries, including Mexico, show. Complete

figures are not available, but the export of automobiles to all Latin America fell off much above one-half in number and perhaps three-fourths in value.

The chief live animal exports of the United States to Latin America is of horses to Cuba and to Mexico. In 1920 Cuba took 2,200 head of American horses at the customs value of \$437,687, i. e., \$199 a head. In 1921 the figures were 939 head, value \$148,423, \$158 a head. Mexico increased its purchase of horses from 3,285 head in 1920, worth \$230,483, to 10,330 head in 1921, worth \$583,825. The per capita in the first case was \$70 and in the second \$58. A considerable number of the horses exported to Cuba were high priced racers, which fact accounts for the high per capita rate.

The decreases in trade with Latin America as between 1920 and 1921 were greater than the decreases in trade elsewhere, especially on the side of imports. The falling off in imports from Latin America was approximately 60 per cent and from all other countries approximately 48 per cent. In exports the figures are around 50 per cent and 45 per cent, respectively. Many of the causes that led to the falling off in trade with Europe, Asia, and Africa were the same as led to the falling off of trade with Central and South America. One of the chief causes, showing a decline more apparent than real, was the price decline, another was the inevitable reaction which had to follow the frantic buying craze of 1919 and 1920, and a third, in reality a corollary of the second, was the over stocked condition of all markets. Broadly speaking these influences affected the buying and selling capacity of Latin America in the same way and in a comparable degree as they affected the buying and selling capacity of other countries. But there were differences. The price declines in Latin American exports (imports of the United States) were greater than the price declines of European exports (likewise imports of the United States). This fact in a large measure accounts for the differences between 60 per cent decline in imports from Latin America and 48 per cent decline in imports from elsewhere. On the export side the fall in price was more uniform, although somewhat greater in the case of exports to Europe, because of the greater proportion of agricultural products for which prices receded greater than in manufactures. The general falling off in exports to Latin America of 50 per cent as compared with a falling off in exports elsewhere of 45 per cent if corrected for variations in price declines would show a difference greater than the 5 per cent, possibly as much as 10 per cent.

The mad rush to buy affected all the world in 1919 and 1920. There was little difference in degree between Berlin and Buenos Aires, Paris and Habana, London and New York, Rome and Hong-kong. It was in effect a commercial craze everywhere. But there

was a marked difference in incentives and purposes. France, England, Italy, and central Europe were buying from necessity that which they must have. Near all the world besides was buying from prodigality much that was wasteful luxury. Latin American exports in 1920 amounted to \$3,238,102,076, in 1919, to \$3,086,212,082, and in 1918 to \$2,409,036,805. Compared with the years before the war these figures represented an increase of 100 per cent; \$1,283,232,640 in 1911, \$1,573,533,307 in 1912, and \$1,552,750,952 in 1913. If the increase had represented a substantial increase in production and export by quantities all would have been well, but it did not. It was almost entirely an artificially inflated price increase. From 1913 to 1920 there was no great increase in Latin American population, industry, or production. The production of sugar, oil, and a few minor products increased, but there was no general increase in production and export to warrant the 100 per cent value increase from 1913 to 1919 or 1920. An example of price inflation—an extreme one—is sugar. In the year immediately preceding the war the United States imported from Cuba 4,926,606,243 pounds of sugar, valued at \$98,394,782; in 1920 the figures were 6,549,286,649 pounds, value \$773,707,181. An increase of less than one-third in quantity is represented by an increase of near eight times in value. This, as said, was an extreme case, but there were large advances in price of nearly all Latin American exports, while with the exceptions noted there was but little increase in quantity exports. Argentina's exports in 1913 amounted to \$468,999,410, almost entirely agricultural products, grains, meats, wool, hides, etc. The exports in 1920 were of the same products in quantities but little greater, but the value was \$976,596,000. Both figures are from official Argentine sources.

The craze for buying began in Latin America, as it did in the United States, before the close of the war. In 1917 Latin American imports amounted to \$1,367,211,849, which was above the before-the-war figures. In 1918 the figures were \$1,494,131,101. During these two years it had been with difficulty that Latin America was able to secure imports, due to the restrictions imposed by American and British war trade boards. Notwithstanding imports for the two years went above the figures of 1911, 1912, and 1913. In 1919, with restrictions removed, Latin American imports jumped to \$1,947,948,717, and in 1920 to \$2,679,579,566. Everything was bought, but especially articles of luxury. The imports were keeping pace with the exports. Whenever times are flush Latin America buys to the limit. It is disposed to go beyond the limit. This is a condition that those familiar with Latin American trade have known for generations. Experienced traders look forward to and prepare for these

sudden reversals. There was no radical weakness in Latin American markets in 1921. There is none now. There has been no breakdown of industry, although many Latin Americans have called it such. The whole difficulty is functional and was magnified by those who failed to see the perspective. The countries even at the lowest ebb were importing but little below the normal, i. e., of the before-war period. They were in the ebb of one of those constantly recurring periods of overbuying. But since the flood had been higher and consequently by comparison the ebb lower they considered it as being the absolute low water, which it was not.

From the known facts we can summarize the condition as follows:

Latin American decline of trade in 1921 was not so great as the valuation figures show. In part it was a price decline.

Where it was not a price decline on the side of imports it was a natural reaction from two or three years of overbuying. This reaction was forced by a great fall in the prices of most Latin American exports, and in some cases by an actual decrease in foreign demand for the products.

There has been no material shifting of trade either on the import or export side. The United States is yet the chief factor in all Latin American foreign trade and in nearly every single State of Latin America. It buys the most and sells the most.

German trade is reviving but slowly. There is no present indication that Germany will ever, except in a few specialties, be a serious rival with the United States and England for Latin American trade.

The rivalry between these two is centered in the southern half of South America, with England holding the best position as to all classes of textiles and the United States having the advantage in metal goods. Elsewhere the United States has the advantage in nearly all kinds of goods, except that there is a weakness in textiles more or less everywhere.

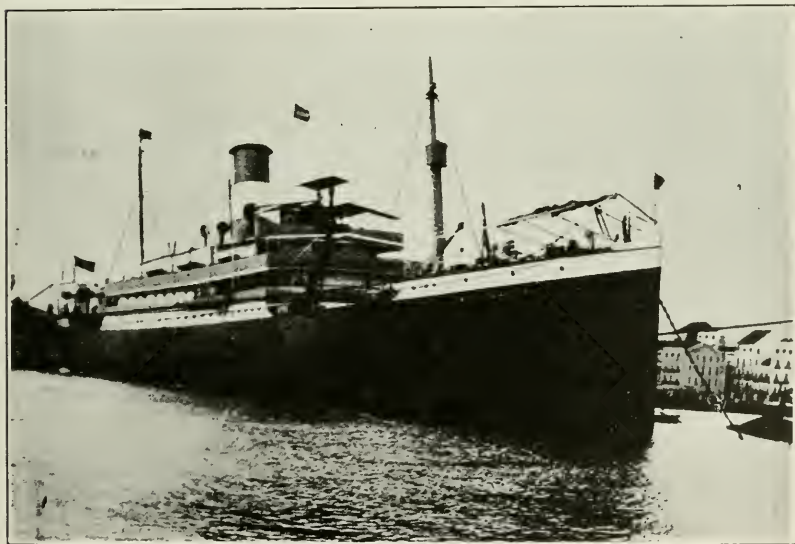
On the side of Latin American products—exports of Latin America—the United States has the advantage, almost the monopoly, in almost everything except grain and meat. Raw products of all kinds, including the by-products of meat production and foods, except grain and meat, find their great market now as in the past in the United States.

The most remarkable single fact in comparing the exports of the United States to Latin America in 1920 and 1921 is that, notwithstanding the exports to all Latin America fell by near one-half, the exports to Mexico gained 7 per cent. In 1920 United States exports to Mexico were less than to either Cuba or Argentina. In 1920 exports to Mexico were near a fifth greater than to Cuba and double to Argentina.

*Commerce of the United States of America with Latin America, twelve months ending
Dec. 31, 1921.*

[Compiled from reports of the Bureau of Foreign and Domestic Commerce, Department of Commerce.]

	Imports.	Exports.	Total.
Mexico.....	\$119,145,533	\$221,854,304	\$340,999,837
Guatemala.....	8,594,936	6,091,660	14,686,596
Salvador.....	2,878,378	4,546,734	7,425,112
Honduras.....	4,920,529	11,734,985	16,655,514
Nicaragua.....	4,694,002	3,628,068	8,322,070
Costa Rica.....	5,844,117	4,051,937	9,896,054
Panama.....	3,865,289	23,144,415	27,009,704
Cuba.....	230,374,341	187,726,179	418,100,520
Dominican Republic.....	14,414,142	19,338,711	33,752,853
Haiti.....	2,094,930	8,227,297	10,322,227
North American Republics.....	396,826,197	490,344,290	887,170,487
Argentina.....	59,925,960	110,833,049	170,759,009
Bolivia.....	2,167,834	3,393,282	5,561,116
Brazil.....	96,326,200	58,106,414	154,432,614
Chile.....	46,935,143	26,487,166	73,422,309
Colombia.....	43,976,205	17,734,662	61,710,867
Ecuador.....	5,259,730	3,540,938	8,800,668
Paraguay.....	1,169,418	386,951	1,556,369
Peru.....	14,733,239	24,028,627	38,761,866
Uruguay.....	12,512,249	13,771,361	26,283,610
Venezuela.....	11,295,159	9,498,257	20,793,416
South American Republics.....	294,301,137	267,780,707	562,081,844
Total Latin America.....	691,127,334	758,124,997	1,449,252,331



ARGENTINE FOREIGN TRADE 1921

IN advance of the actual compilation of Argentine foreign trade for 1921, Señor Alejandro E. Bunge, Director General of the General Office of Statistics, has made an estimate of the trade for that year. This estimate is based upon certain ascertained facts, such as amount of duties collected and upon index figures representing quantity and price changes in comparison with preceding years.

According to this estimate the imports and exports for 1921 were as follows: Imports, 635,000,000 pesos gold; exports 672,000,000 pesos gold; total, 1,307,000,000 pesos gold.

Comparing the estimate with the trade of the four preceding years the results show:

	Imports.	Exports.
	<i>Pesos gold.</i>	<i>Pesos gold.</i>
1917.....	380,321,000	550,170,000
1918.....	500,602,000	801,466,000
1919.....	655,772,000	1,030,965,000
1920.....	881,334,000	1,631,388,000
1921.....	635,000,000	672,000,000

These figures show a falling off, as compared with 1920, of 246,000,000 pesos gold (27.0 per cent) in imports and 359,000,000 pesos gold (34.8 per cent) in exports. The actual falling off in imports was, however, by no means so great as the above figures tend to show. To a large extent the decline represents a decline in prices rather than an actual falling off in imports by quantities.

According to Señor Bunge, the fall in prices of cotton textiles amounted to 45 per cent, of silk textiles to 35 per cent; of bags and bagging to 24 per cent; of edible oils to 20 per cent; of kerosene to 20 per cent; of some other petroleum products to 50 per cent, and of iron in bars, etc., to 50 per cent. On the whole he estimates the fall in prices for the whole list to average about 25 per cent, which shows that notwithstanding a value decline of near 28 per cent, the quantity decline was only 4 per cent as compared with the preceding year.





Courtesy of *Plus Ultra*, Buenos Aires.

A NEW PORTRAIT OF SAN MARTIN.

This painting of great artistic and historic merit, the work of Bror E. Kronstrand, has been secured for the Jockey Club, Buenos Aires, by Señor César González Segura, chairman of the house committee of that club. The artist spent several months in the study of General San Martín and his life, and in addition had the benefit of advice by Dr. Dellepiane, Director of the Museo Histórico and Sr. González Segura.

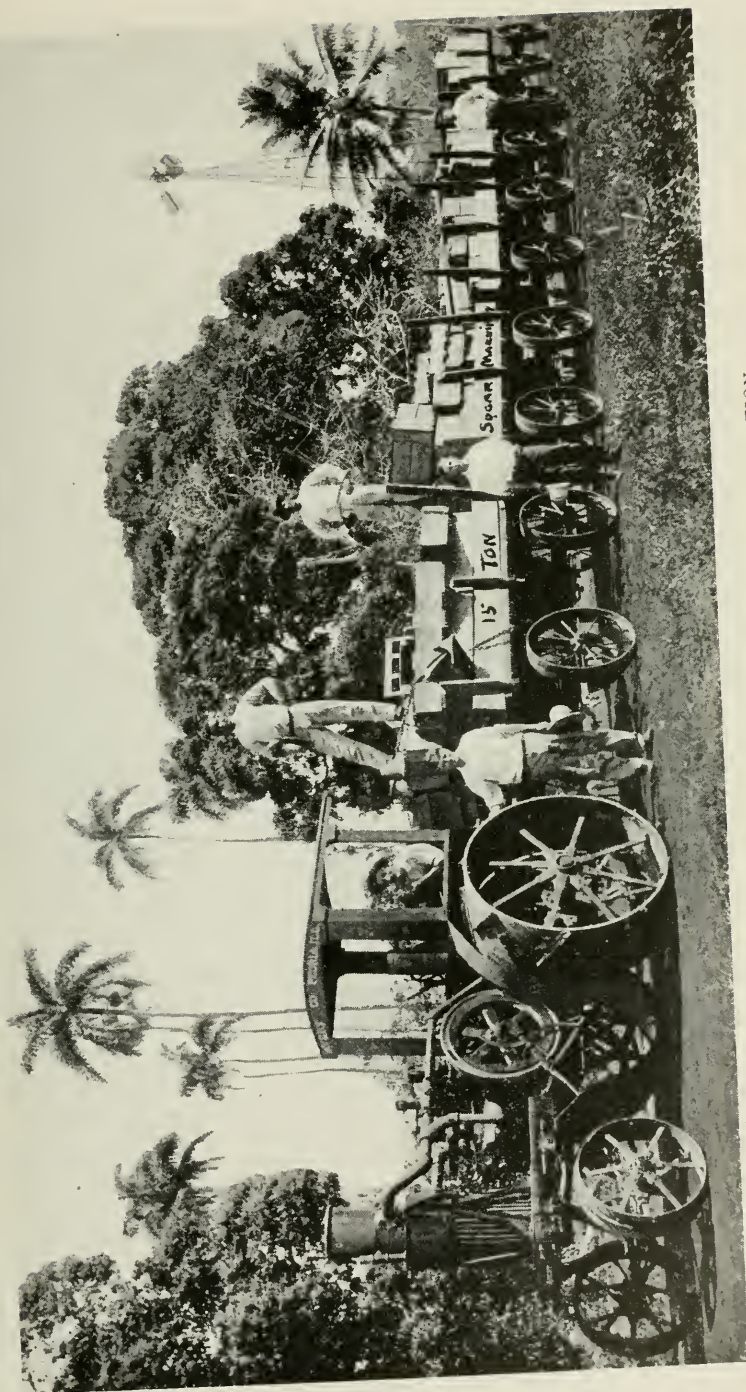


Courtesy of Revista Jurídica y de Ciencias Sociales, Buenos Aires.

**MODEL OF THE NEW BUILDING FOR THE FACULTY OF LAW OF THE UNIVERSITY
OF BUENOS AIRES.**

It is expected that this building will be ready for occupancy by the close of the present year.

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A UNITED STATES TRACTOR ON A CUBAN SUGAR PLANTATION.

Courtesy of El Exportador Americano.

AGRICULTURE, INDUSTRY AND COMMERCE

ARGENTINA.

AGRICULTURAL PRODUCTION.—Wheat production in 1921 amounted to 4,620,000 tons; linseed to 1,282,000 tons, and maize to 5,853,000 tons. At the beginning of 1921 the stocks of wheat on hand amounted to 4,782,896 tons; deducting from this figure 1,900,000 tons, the amount necessary for consumption and seed, there was a balance of 2,882,896 tons, of which approximately 1,600,000 tons were exported; a supply of 1,200,000 tons is therefore left for 1922. The linseed harvest, added to the excess of the year before, gave 1,386,420 tons. Deducting from this figure for consumption and seed 138,000 tons, the exportable balance was 1,248,420 tons, of which about 48,000 will remain in the country. The maize crop, plus the amount left from the previous year, amounted to 5,978,000 tons, of which 2,100,000 tons were needed for consumption and seed, thus leaving a balance for export of 3,878,000 tons, reduced at the end of the year to somewhat more than 1,200,000 tons. The total amount of sugar produced in the country in 1921 amounted to 196,682,280 kilos. (*Revista de Economía y Finanzas.*)

EXPORTS OF PASTORAL PRODUCTS IN 1921.—The Times of Argentina in its issue of January 30 gives the total export of pastoral products for the year 1921 as follows:

Salted oxhides.....	2,335,167	Guano.....	tons..	10,579
Dried oxhides.....	1,498,206	Bones and bone ash...do....		16,889
Salted calfskins.....	39,093	Horns.....do....		823
Dried calfskins.....	463,201	Tongues.....do....		715
Salted horsehides.....	17,000	Dried blood.....do....		4,908
Dry horsehides.....	46,987	Cattle.....		3,619
Wool.....bales..	375,720	Horses.....		662
Sheepskins.....do....	41,499	Mules.....		434
Goatskins.....do....	6,536	Sheep.....		5,311
Hair.....do....	5,459	Hide cuttings.....tons..		763
Nutria skins.....do....	874	Hoofs.....do....		778
Preserved meat.....tons..	12,367	Premier jus.....do....		10,403
Butter.....cases..	875,784	Wolfram.....do....		460
Casain.....tons..	14,126	Quebracho extract....do....		123,522
Tallow.....do....	21,478	Quebracho logs.....do....		19,238

AUTOMOBILE SHOW.—The fourth automobile show under the auspices of the Argentine Automobile Club was held in Buenos Aires

last November. The chief importing houses displayed passenger cars, trucks, tractors, tires, marine and airplane motors, and accessories. Many American and European automobiles, valued at 1,745,000 pesos, were exhibited. Sixty-eight passenger cars were purchased; they are valued at 773,150 pesos.

LONG-TERM SALE OF NATIONAL PRODUCTS.—The minister of foreign relations has sent to the Argentine representatives in foreign countries a circular announcing that the overstocks of national products, such as cereals, meat, and wool, necessary for the food supply and manufactures of other countries, are offered for sale on the basis of long-term payments. The minister has also informed the legations that there are 45,000,000 head of sheep in Argentina and that the wool clip of 1921-22 is estimated at 170,000 tons.

BOLIVIA.

PROPOSED RAILROAD.—The manager of the commercial and industrial firm "Matto Grosso de Bolivia," representing both his own company and the Belgian South American Co. of Brussels, has presented to the Government a proposal for constructing and exploiting a railroad to start from Puerto Suárez, on the eastern frontier, cross Chiquitos Province, pass through Santa Cruz, and terminate at the confluence of the Ríos Grande and Piray, a point favorable for navigation on the Beni River. The maximum cost of the work, including all construction, is estimated at £4,000 per kilometer. The Government is asked to guarantee a return of 5 per cent on this investment, including buildings erected in Puerto Suárez, while on their part the companies offer a guaranty of £40,000 sterling for the construction of the work within five years.

RAILROAD FROM SANTA CRUZ TO RÍO GRANDE.—The representative of the Madera Mamoré Railway Co. has laid before the Government a proposal in substitution of the contract made in 1911 for constructing, owning, and exploiting a railroad from the left bank of the Mamoré River, through Guayaramerín, to the city of Riberalta on the Beni River. This proposal has three alternatives: (a) Construction of an automobile road from Santa Cruz to Cuatro Ojos, Puerto Velarde, or any other point on the Rio Grande convenient for loading and unloading steamers; (b) construction of a narrow-gauge railroad between Santa Cruz and the chosen port on the Rio Grande, making use of a new road, the one now in existence, or the road above proposed; (c) erection of an aerial cable between Santa Cruz and the proposed river port, using the present route or a new one. Congress has the proposition under consideration.

RAILWAY CONVENTION WITH ARGENTINA.—See page 405.

IRRIGATION AND SEWER SYSTEM.—See page 403.

BRAZIL.

SUGAR VALORIZATION.—A law has been passed relating to the exportation of sugar and the protection of the producers, and a credit of 50,000 contos of reis has been approved for valorization purposes.

PROTECTION FOR BRAZILIAN OIL NUTS.—A bill has been introduced in the Brazilian Congress for the protection and development of the oil-nut resources of the country. The numerous varieties of nuts growing in the northern sections of Brazil have a high oil content and are in demand because of their food value and lubricating properties. An important trade could be developed by the proper culture and handling of these nuts, and it is to this end that an experiment station is being proposed. It is reported that the coming crop will be larger than that of last year, but as yet no figures are available. (*Commerce Reports.*)

PORTS OF FORTALEZA, PARAHYBA, AND CORUMBÁ.—Operations have commenced on the construction of breakwater and docks in the port of Fortaleza, State of Ceará, contract for which was let to a British concern some time ago. At present there are no docking facilities, all ships touching that port having to anchor far out in the ocean and transship cargo and passengers in smaller boats. The improvements consist of a solid masonry construction in deep water far from the beach, with the side next the shore built as a dock wall and the side toward the sea constructed as a breakwater.

Fortaleza is the port of entry for all material to be used in the extensive reclamation and irrigation projects now under way in the State of Ceará. It is expected that these improvements will make it a very important port for northern Brazil.

Improvements are also under way in the port of Parahyba, which will permit ships of deep draft to have access to the city. Likewise a concession has been secured by the State of Matto Grosso for the river port works at Corumbá. (*Commerce Reports.*)

CEMENT PLANT FOR SANTA CATHARINA.—The governor of the State of Santa Catharina, Brazil, has received word from the superintendent of the municipality of Itajahy to the effect that he has organized a company for the manufacture of cement from raw materials of the municipal districts of Itajahy and Camboriu, according to a report from Assistant Trade Commissioner Bernard H. Noll. (*Commerce Reports.*)

PUBLIC UTILITIES CONCESSION IN MACEIO, ALAGOAS, OBTAINABLE.—A law passed last June by the State of Alagoas authorizes the governor to expropriate certain public-service companies of Maceio, the capital, and to grant all rights of these companies, together with a concession for a sewer system in Maceio, to any company making the most advantageous offer. (*Commerce Reports.*)

RIO GRANDE MEAT CO.—See page 407.

LEASE AND CONSTRUCTION OF SANTA CATHARINA RAILWAY.—See page 407.

COTTON CLEANING AND PRESSING.—See page 408.

CHILE.

CHEMICAL PRODUCTS.—Several companies making chemical products have recently united in order to increase production and lower the cost of manufacture. The company has already begun to produce on a large scale acids which are essential to certain industries, such as muriatic and acetic acids, used in the making of fertilizers and tanning. It is believed that the united factories will soon be in a position to supply the necessities of the national market.

PORT WORKS AND RAILROADS UNDER CONSTRUCTION.—The Council of State has approved the law passed by Congress authorizing the President to advertise for bids at a lump sum for the conclusion of the harbor protection works at Valparaíso, the complementary port works at Antofagasta, the harbor improvements at Constitución, Iquique, Talcahuano, Lebu, Puerto Saavedra, and Valdivia, the construction of a wharf at Puerto Montt, of a wharf and complementary works at Tomé and Pichilemu, of the railroads from Los Queñes to Curicó and from Parronal to the San Fernando-Pichilemu line, and the extension of the Hualañé-Constitución line. All work is to be completed within 10 years.

NEW ELECTRIC CAR LINE.—The Valparaíso Electric Tramway Co. has been granted permission to construct a double-track electric line from Valparaíso to Viña del Mar. Work will begin immediately.

NITRATE USED TO FIGHT PARASITES.—An article appearing in The Grace Log, organ of the well-known Grace Co., describes the use of nitrate in getting rid of one of the most dreaded cotton pests, the weevil, which is said to attack chiefly plants cultivated in impoverished soil which do not have time to mature before the development of the weevil.

COLOMBIA.

AERIAL MAIL.—The vice consul of the United States in Barranquilla states that the Colombian Government is paying the Compañía Colombo-Alemana de Transportes Aéreos, which has a service of gliders on the Magdalena River between Barranquilla, Girardot, and Neiva, a subsidy of 100 pesos for each trip, plus 30 centavos for each 15 grams of mail. Each of the five hydroplanes has 500 horsepower and can carry three passengers. The advantages of this service in going from the coast to Bogotá have already been mentioned in the BULLETIN.

Mail going up the Magdalena by steamer from Barranquilla to Bogotá is one or two weeks in transit, according to the condition of the river, while by hydroplane it arrives in 24 to 30 hours. Last October both mail and passenger service were extended to Cartagena, one trip a week being made to that city.

Stamps for this aerial mail may be obtained in New York from Vázquez Correa & Co., 1 State Street. The postage is 15 cents for each 30 grams.

INDUSTRIAL EXHIBITION AND HISTORICAL CENTENARY.—April 7, 1922, the hundredth anniversary of the Battle of Bomboná, won from the Spaniards by Bolívar, has been declared a holiday by the departmental assembly of Nariño. At that time the department will hold an industrial, agricultural, stock, and art exposition in Pasto. On the centenary a marble slab will be placed on the traditional Bomboná Stone to perpetuate the memory of the heroic soldiers who fought for the liberty of Colombia. Another feature of the day's celebrations will be the opening of the Bomboná highway.

A bronze replica of Tenerani's statue of Bolívar will be erected in Pasto at a cost to the department of \$2,000.

RAILROAD EQUIPMENT.—The Barranquilla Railway & Pier Co. is to purchase new cars, locomotives, cranes, freight elevators, platform scales, new lathes with electric motors for the shops, modern machinery for woodworking, and other tools. The amount to be expended is £45,000 sterling.

COSTA RICA.

MONTEZUMA MINES.—An American company which has developed the Aguacate gold and silver mines has acquired the well-known Montezuma mines and will invest \$1,000,000 capital. This is certain to bring great development to the district of Miramar and Puntarenas.

COFFEE GROWERS' ASSOCIATION.—In the report of the president of the Costa Rican Chamber of Commerce note is made of the protection afforded by this body to the newly formed association of coffee growers in resisting speculation by exporters in crop prices. The report also stated that the chamber of commerce was ready to give its services free in arbitrating difficulties between insurance companies and persons insured in regard to crops, this class of insurance not coming under the recent rulings.

BRIDGE OVER RÍO DEL ORO.—The President of the Republic attended the ceremonies opening the new bridge over the Río del Oro near the town of Piedades de Santa Ana. This bridge opens

up the country round about to the great advantage of the agriculturists.

CUBA.

THE CUBAN TELEPHONE CO.—This company publishes a monthly bulletin, *La Revista Telefónica Internacional*, which not only gives an account of telephone developments in Cuba but which in the future will report on telephones and other means of communication in all Spanish-speaking countries.

In its November number the *Revista* says that in 1919 the company had 29,741 telephones in Cuba, for which there were 59,290 miles of line either above or below ground. Since that time this equipment has increased to 35,918 telephones and more than 84,000 miles of line. Almost 90 per cent of the telephones now in use are automatic; they have given excellent service. Such telephones are found in Habana, Matanzas, Cienfuegos, Cárdenas, Sagua, and Santiago de Cuba, the plant in Habana being the largest automatic plant in the world under a single roof.

Last year installations were made in Remedios, the industrial center of one of the best sugar, tobacco, and agricultural districts of the Republic, so that messages could pass between that city, the other parts of Cuba, the United States, and Canada.

IMPORTATION OF COTTON PROHIBITED.—A presidential decree has strictly forbidden the admission into Cuba of cotton plants or parts thereof, buds, seeds, and raw cotton coming from Mexico, Santo Domingo, Puerto Rico, and other islands of the West Indies, on account of the existence in those countries of the pink boll weevil (*Gelechia gossypiella*). The articles named may be imported from other countries under the strict supervision of the bureau of plant inspection.

ELECTRIC RAILWAY.—In January the electric car line between Matanzas and Hershey was opened to traffic. Both passenger and freight cars are operated. It is hoped that by the middle of the year connection will be made with the lines running into Habana.

DOMINICAN REPUBLIC.

TELEPHONES.—A telephone line connecting San Pedro de Macorís with El Seibo and Hato Mayor will soon be installed at the expense of the three towns and the Government.

ECUADOR.

ECUADOR AS MARKET.—Comercio Ecuatoriano names the following articles of import for which it says a market exists or could be created in Ecuador: Automobiles and trucks, machine-shop equipment, cranes and winches, motors, printing machinery, cotton gins,

hullers, machinery for making tin cans, pumps, lubricants, rubber articles, leather and rubber belting, machinery for extracting vegetable oils, refrigerators, portable saws and electrical equipment, textile machinery, electrical supplies, drugs and medicines, stationery, packing material, musical instruments, typewriters, photographic material, surgical instruments, sporting goods, toys, motor and other boats, sewing machines, animals for breeding purposes, ready-made clothing, shoes, jewelry, perfumery, mineral waters, and foodstuffs.

GUATEMALA.

JUTE BAG FACTORY.—The new jute bag factory in Mazatenango has a paid-up capital of \$11,600, and is to manufacture sacks from the plant known in Guatemala as *escobillo*. The company's plantations are near the factory. The sacks will cost about one-third the price of those now imported from other countries.

ABROGATION OF SUGAR TAXES.—Owing to the reduced price of sugar in foreign markets the executive has ordered the abrogation of all Government or municipal taxes on the manufacture, export, or consumption of sugar, brown sugar, and cane syrups.

INTERNATIONAL RAILWAY SCHEDULE.—Daily passenger trains now run from Guatemala through Puerto Barrios, San José, Champerico, and Ayutla and return, with stops at intermediate stations, making connections at Mulua and San Felipe with the automobiles running to Quezaltenango, and in Ayutla with trains on the National Railway of Mexico which leave Suchiate Sundays, Tuesdays, and Fridays.

LOAN OF 200,000 PESOS FOR PUBLIC WORKS.—The municipality of Totonicapán was authorized by the executive to contract a loan of 200,000 pesos with the Banco de Occidente, secured by mortgages on municipal property. The loan will be used for public works.

HAITI.

RENEWAL OF GERMAN SERVICE.—The *Henry Horn*, a 2,500-ton steamer of the Horn Line, sailing from Hamburg, arrived at Port au Prince last December, thus renewing direct maritime communication between Germany and Haiti.

NEW YORK TO HAITI.—The Clyde Line maintains a steamer in the Haitian coasting service, and a weekly direct freight boat from New York to Haiti, a trip of 140 hours. Freight leaving Haiti is transhipped in Kingston for New York, England, and other European countries.

IMPORT DUTIES.—The receiver general of customs has requested importers to furnish him with samples of goods in advance of importation, so that duties may be indicated and misunderstandings avoided.

HONDURAS.

LAND CONCESSION.—One hundred and twenty-five hectares of land along the free zone of the Tela Railroad Co. in the Department of Yoro have been granted to the planter who for five years has been raising bananas on this tract.

MEXICO.

PETROLEUM PRODUCTION OF 1921.—The statistical section of the petroleum department has published complete figures for the total production of petroleum in Mexico during 1921, which amounted to 192,916,775 barrels, 41 per cent of the amount produced in North America and 28 per cent of the world product. The report points out that in 1901 the total production in Mexico was only 10,345 barrels. In January, 1921, production was 15,203,551 barrels; in November, 21,113,448 barrels; and in December, 23,931,747 barrels. The Tuxpán field provided by far the greatest share, since 151,049,163 barrels came from its wells, while the River Pánuco produced 41,764,751 barrels and the Tabasco district 2,861. The total export was 172,268,136 barrels, or 27,387,621 cubic meters, an increase over the preceding year of 26,759,187 barrels. The greatest amount, 99,281,429 barrels, was exported through Tampico, while 69,956,594 barrels were shipped from Puerto Lobos and Tuxpán, and 2,859,667 from Puerto México. According to quality, the exported oil is divided as follows: Light crude petroleum, 1,509,568 cubic meters; fuel oil, 719,544 cubic meters; heavy crude oil, 642,070 cubic meters; crude gasoline, refined gasoline, refined kerosene, asphalt, lubricants, and gas follow on a descending scale.

FLOATING DOCK.—The repairs on the floating dock of the National Arsenal at Vera Cruz were recently completed, so that in conjunction with changes in the shops and the acquisition of new material, the arsenal is equipped to repair ships as efficiently as can be done in foreign countries. The gunboat *Bravo*, of 1,800 tons, and the dredge *Tampico* have recently been satisfactorily repaired. The technical experts as well as the workmen employed at the arsenal are all Mexicans.

INCREASING IMPORTANCE OF TAMPICO AS PORT.—The enormous increase in international and local traffic, shown by figures obtained from the railroads, the navigation companies, and the Tampico customhouse, clearly indicates that Tampico is taking first place as port for ocean-going boats. From 20 to 30 ships of all nationalities enter daily. During the time of greatest railway freight congestion last year, 300 or 400 cars left every day for the interior of the country, but while there was a notable diminution in traffic on railway lines during last December and January, so that the customary movement

was reduced 50 per cent, the Tampico division was not affected, but as many cars as in the most congested weeks continued to leave the port.

IMPORTANT ROAD CONSTRUCTION IN THE NORTH.—Besides the great highway which, starting from Nogales, Sonora, will follow the west coast for 1,000 miles, another important road from Nogales to Puerto Lobos, via Saric, Tubutama, Altar, and Caborca, in one of the most prosperous regions of the country, will receive Government aid. The governor of Arizona and those of the Mexican States of Sonora and Sinaloa have recently held several meetings for the purpose of promoting the construction of various highways through united action, since such roads will prove of great benefit commercially.

MEXICAN AND AMERICAN CHAMBERS OF COMMERCE.—The American consul at Nogales reports that the chambers of commerce in Mexico will hold a meeting in Nogales, Mexico, on April 1, 2, and 3, and that on the following day they will meet in Nogales, Arizona, with the chamber of commerce of that city. American business men are invited to attend the conference. The chambers of commerce of the cities of Nogales and Tucson, Arizona, are making arrangements for a special Pullman train to take both the Mexican and American delegates down the west coast to Tepic, a distance of approximately 700 miles. The trip is expected to take 11 days; its fundamental purpose is to acquire knowledge of the business resources and opportunities of the region visited.

NEW RAILROAD IN CHIHUAHUA.—The United States Commerce Reports state that a firm of El Paso, Texas, has been awarded a contract for the construction of a railroad 47 miles long from the Erupeión mine and the Sierra de los Lamentos to the Candelaria station on the National Railway, 65 miles below Ciudad Juárez. The line is expected to be open to traffic by August of this year; it will be used both for freight and passenger service, the former consisting chiefly of silver and lead ore.

NICARAGUA.

YUCCA BACCATA FIBER.—The Amsinck Co. of New York reported on the sample of *yucca baccata* fiber sent them that it was quoted in the New York market at 3 to 3½ cents if sent in good condition: that is, long, soft, strong, and well cleaned. Softness can be given to the fiber by the use of certain types of machines.

TOBACCO GROWERS' ASSOCIATION.—An association of tobacco growers has been formed in Masaya with the object of starting a company to market the crop more advantageously.

JUIGALPA ELECTRIC LIGHT.—The electric-light plant of Juigalpa was put into service in November.

MAIL AND STEAMER SERVICE.—The directorate of mails has announced that parcel post from Great Britain will be expedited by being sent to New York and thence direct to Bluefields via New Orleans, and that the Royal Netherlands West India Mail will carry mail between Hamburg and the Pacific coast of Central America via the Panama Canal.

WIRELESS COMPANY.—The Government has authorized the Tropical Radio Telegraph Co., organized under the laws of the State of Delaware, U. S. A., to operate wireless stations in or near Managua, Bluefields, Cape Gracias a Dios, and other places in the Republic. The Managua station is to be of not less than 25 kilowatts.

PANAMA.

FERRY ACROSS MIRAFLORES LAKE.—The President of Panama has received a communication from the Department of State of the United States to the effect that if the Government of Panama wishes to begin constructing a ferry across Miraflores Lake for commercial uses that the project will be looked upon favorably by the United States Government, provided the work is carried on under the supervision of the Governor of the Canal Zone. The War Department of the United States has for some time considered the building of such a ferry, but funds had never been appropriated for the purpose.

MENSABE-LAS TABLAS ROAD.—The Panama Construction Co. is constructing the Mensabe-Las Tablas cart road opening up the surrounding country. A well-equipped dock is to be built in Mensabe to fit it as a port for the interior of the Republic.

AGRICULTURAL SYNDICATE.—Press reports state that the Mariposa Syndicate has contracted for 136,000 acres in the Provinces of Colón and Veraguas. The timber of these lands is estimated at from one and one-half to two billion board feet in trees scaling upward of 18 inches. The property is on the land of the Bocas del Toro-Colón Railroad, which will join the Pan-American Railway, connecting the continents of North and South America. Corn is to be the first crop planted after clearing the land, as it matures in 90 days and three crops can be raised during the year. Citrus fruits, coconuts, sugar cane, and pineapples will be the next, and special attention will be given to raising cattle.

PARAGUAY.

DISTRIBUTION OF PROPERTY.—The latest publication of the general statistics bureau, as quoted by the *Economista Paraguayo*, says that outside of Asunción there are in the rest of the Republic 38,348 pieces of property held by individuals, the total area being 32,766,938 hectares. As the total area of Paraguay, excluding Asunción, is

estimated at somewhat more than 40,000,000 hectares, it appears that the State still owns more than 7,000,000 hectares. Of the 38,348 parcels of rural property, 3,378 occupy less than a hectare. The remaining 34,970 are distributed in regard to area as follows:

Area per parcel in hectares.	Number of parcels.	Total area.	Area per parcel in hectares	Number of parcels.	Total area
1-10.....	17,315	78,765	3,000-4,999.....	413	1,616,799
11-19.....	10,778	222,953	5,000-9,999.....	340	2,495,340
50-99.....	1,806	129,185	10,000-19,999.....	345	5,459,667
100-199.....	3,019	738,834	20,000-49,999.....	126	4,082,435
500-999.....	854	652,707	50,000-99,999.....	84	5,860,372
1,000-1,999.....	814	1,198,498	More than 100,000.....	52	9,519,636
2,000-2,999.....	290	713,342			

Taking into consideration only the pieces of property more than 1 hectare in area and calculating the population of the country at 650,000, with the hypothesis that every parcel of property has a different owner, it is shown that property owners compose only 5.8 per cent of the population.

UNDER-RIVER CABLE.—On January 15 the under-river cable between Campichuelo, a short distance north of Encarnación, and Posadas, across the Paraná in Argentina, was officially inaugurated. When this line is connected with the Misiones telegraph system, direct communication will be established between Argentina and a rich and well-populated zone of the Republic. This new line makes the third telegraphic line connecting Paraguay with another country; there are now lines via Formosa, Paso de Patria, and Campichuelo.

PERU.

AUTOMATIC LIGHTHOUSES.—Six new unattended lighthouses and beacons, acquired from a Swedish company, will be erected at the following points during the first half of 1922: Isla Centro de Chincha, Punta Parada, Punta Atico, Punta Santa María, Supe and Huarmey.

CONCRETE AQUEDUCT.—A reinforced concrete aqueduct 68 feet in length and 44 feet high, costing approximately 25,000 Peruvian pounds, has been built at Tambo Real by the Sociedad Agrícola Tambo Real, to carry irrigation water between the two ditches on opposite sides of the valley, thus making productive 700 fanegadas of land in addition to the 500 fanegadas already under cultivation. Water from the same canal operates a 150-horsepower turbine for the cotton-ginning establishment. The original irrigation canal was dug in Inca times. (1 fanegada equals approximately 1.59 acres.)

CATTLE BOATS.—A company with a capital of 200,000 soles has been founded in Arequipa to carry on the transport of cattle between Callao and the southern ports of the Republic. The company will have two 500-ton boats especially built for cattle transport.

MARGARINE.—A new national industry, the production of margarine from cottonseed oil, has recently been undertaken in Peru with satisfactory results. The margarine sold in Lima for 1 sol a kilo, while the imported product was priced at 80 per cent more, and was not considered superior in quality.

PETROLEUM LAW.—See page 410.

SALVADOR.

TORTOISE FISHING.—Tortoise fishing off Punta Remedios is drawing a fleet of canoes to that point.

NEW PUBLISHING HOUSE.—A new publishing house has been founded in San Salvador which is to give more opportunity to the young writers of the country. An illustrator has been engaged to work with the new publishers. The first book brought out will be the Parables of Guyau, translated from the French by Sr. Uriarte, the edition to be 2,000 copies.

UNITED STATES.

FOREIGN TRADE CONVENTION.—The Ninth National Foreign Trade Convention will be held in Philadelphia May 10, 11, and 12, 1922. Its central theme will be the financing and expanding of foreign trade.

This convention will study the means of promoting the necessary restoration of the power of production and consumption in all the great markets of the world; it will examine the conditions confronting international commerce; and it will obtain the judgment of leaders in business, finance and industry on many matters of vital consequence to the American people.

REPORT ON THE HAGUE RULES, 1921.—These rules, which define the rights and liabilities of cargo owners and shipowners, respectively, were made the subject of a report by the executive committee of the National Foreign Trade Council, which said:

The committee, having considered the Hague Rules, 1921, and the arguments pro and con bearing thereon, is of the opinion that the National Foreign Trade Council should indorse the Hague Rules, 1921, and should urge their early adoption by American ocean carriers.

The committee believes that these rules embody as favorable a readjustment of the distribution of liability between shipper and carrier as can at present be secured. While fully cognizant that these rules do not satisfy many of the demands of the shippers, the committee is of the belief that their adoption will constitute a substantial step in the right direction, and will, in fact, confer very real benefit on the foreign trade of the United States. * * *

The committee is of the opinion that the principle of uniformity of commercial documents, to which the National Foreign Trade Council has frequently declared its allegiance, will be materially aided by the adoption of the Hague Rules, 1921.

The committee urges upon American ocean carriers the desirability of putting these rules into effect at the same time that they are first applied in Great Britain, thus

enabling our shippers to offer their foreign customers shipping documents providing as great a degree of protection as will be afforded by our competitors' bills of lading.

* * *

URUGUAY.

BUENOS AIRES-MONTEVIDEO AIRPLANE SERVICE.—On December 17 the first trip of the new biweekly airplane service between Buenos Aires and Montevideo took place, the distance of 220 kilometers across the River Plate being covered in approximately 1 hour and 10 minutes. The airplane has room for four passengers. On the first return trip 1,270 letters were carried to Buenos Aires.

PORT WORKS AT MONTEVIDEO.—The sum of 9,300,000 pesos has been appropriated for widening and deepening the harbor and for other port works at Montevideo. The money is allotted as follows: River dock, 1,500,000 pesos; passenger station, 200,000; fruit market, 2,400,000; shipyard at La Teja, 1,000,000; dredges and other equipment, 1,500,000; deepening of entrance canal, outer harbor, etc., 1,800,000; reconstruction, 500,000; unforeseen work adjudged necessary, 300,000; and plans, 100,000.

HELPFUL BOOKS.—The animal inspection division of the ministry of industries maintains a library on subjects related to animal raising and care. Books may be consulted at the library or borrowed.

AGRICULTURAL LABORATORY.—In the laboratory of the stock raising and agricultural bureau one section is engaged in the study and analysis of seeds and experimentation with plants and new methods of cultivation of possible interest to the country, while another section makes chemical and botanical analyses and experimental studies having to do with the subjects within the scope of the bureau, such as soil, fertilizers, and forage plants.

SHEEP MANGE.—A commission consisting of Government officials of the animal-inspection service, veterinarians, and representatives of rural and stock-raising societies, has been appointed by the national council of administration to suggest to the President the best means for eradicating the sheep mange.

VENEZUELA.

EXPORTATION OF STOCK.—In the first 10 months of 1921 5,234 head of stock, weighing 2,339,838 kilos, were exported from Ciudad Bolívar.

NEW COMMUNICATIONS.—The construction of a road uniting the highways of Bella Vista and El Milagro has been authorized in the municipality of Coquivacoa. This will complete the net work of highways around Maracaibo, and offer to the motorist a drive through beautiful scenery.

A suspension bridge over the Tocuyo River is under construction as part of the highway between the States of Lara and Trujillo.

Last December a well-constructed road between Mérida and Lagunillas was opened to traffic. There are six masonry bridges along the route. Like all good highways, this will play an important part in the development of the agricultural and business interests of the State.

ECONOMIC AND FINANCIAL AFFAIRS

ARGENTINA.

INTERNAL BOND ISSUE.—The minister of finance has authorized the inscription in the public debt list of the bonds of the internal loan for 60,000,000 pesos issued in accordance with article 8 of the budget law for use in the constructions described in the sections on public works. The bonds will bear 6 per cent interest, and will have a cumulative amortization of 1 per cent. The emission will be made for the gold equivalent, in order to facilitate its quotation in foreign countries.

BOLIVIA.

IRRIGATION AND SEWER SYSTEM.—The minister of finance has authorized the placing of a loan to be used for the canalization of the Desaguadero River from a point near Oruro to that city, for the purposes of irrigation and sewerage.

BRAZIL.

FINANCIAL CONDITIONS IN PERNAMBUCO.—The State of Pernambuco, Brazil, is said to be in excellent financial condition, the balance on hand on November 16, 1921, having been about 10,000,000 milreis (at the end of 1921 the milreis was quoted at \$0.1261). According to Consul C. R. Cameron there will probably be considerable expenditure for public works during the coming year, as it is reported that the governor has adopted an extensive building program. (*Commerce Reports.*)

NEW BRAZILIAN BANKING AGENCIES.—The Banco Commercial do Estado de São Paulo has obtained authorization to open agencies in 14 cities. The Banco Hypothecario e Agricola de Minas Geraes has also received authorization to install an agency in Pouso Alegre, Minas Geraes. Authorization granted to the Banco do Brasil permits agencies at Cuyaba, Matto Grosso; Ipamery, Goyaz; Therezina, Piahy; Uruguayana, Rio Grande do Sul; Montevideo, Uruguay; and Buenos Aires, Argentina. There is also a newspaper report to the effect that the Banco do Brasil will establish agencies in Paris,

London, New York, and perhaps Germany and other countries with which Brazil has close commercial relations. Upon recommendation of the inspector general of banks, the minister of finance has authorized the Banco Popular do Rio Grande do Sul to open a branch in the city of Pelotas, according to a report from Assistant Trade Commissioner Bernard H. Noll. (*Commerce Reports*.)

CHILE.

BUDGET FOR 1922.—The total expenditures of the country for the present year have been fixed at 288,244,350.44 pesos legal currency and 65,958,045.36 gold pesos.

UNITED STATES INVESTMENTS IN CHILE.—Data collected recently show that since 1916 up to date the United States has invested in Chile \$104,000,000, equivalent to nearly 1,000,000,000 pesos at the present rate of exchange. Of this sum \$33,971,000 corresponds to Government loans and the remainder to private enterprises. Among these are to be mentioned the Braden Copper Co., the Chile Copper Co., and the Electric Light & Power Co. of Concepción.

NEW LOANS.—In order to cover the deficit of the fiscal year 1921, pay the salaries of public employees, and fulfill other urgent obligations, including the foreign debt, Congress passed a special law, promulgated December 23, 1921. By it the President is authorized to contract a loan of not more than 80,000,000 pesos paper and another not greater than £1,500,000. The guaranty offered will be either bank credits, renewable treasury notes, or tax-exempt State bonds bearing not more than 8 per cent interest.

PUBLIC DEBT.—The public debt of Chile amounts to 501,151,426 pesos gold and 145,149,600 pesos paper, exclusive of the sums of £1,500,000 and 80,000,000 pesos paper mentioned above, the loan of which has not yet been consummated.

CENTRAL INSTITUTE FOR THE CONTROL OF EXCHANGE.—The Chilean section of the Inter-American High Commission has recently held various meetings, during which a careful study was made of the questionnaire submitted by the central executive council to the various national sections. The following important resolution was adopted: "The Chilean section of the Inter-American High Commission resolves to recommend to the Government of Chile, as the means which can most effectively contribute as far as possible to regulate international exchange, the immediate creation of a central institution which shall exercise control over fiduciary circulation, internal credit, and international drafts, in order thus to prepare the definite stabilization of currency, as far as circumstances permit."

CUBA.

LOAN.—J. P. Morgan & Co. of New York have recently concluded arrangements for a one-year loan of \$5,000,000 to the Cuban Govern-

ment. It will be used to pay postal money orders, interest and amortization of the public debt, and other similar obligations. The loan will bear 6 per cent interest, and is guaranteed by the bonds of the 1917 issue and the securities of the unencumbered assets of the National bank, amounting together to a face value of \$7,000,000.

HAITI.

GOVERNMENT RECEIPTS.—The *Moniteur* for January 18, 1922, gives the internal tax receipts from October 1, 1920, to November 30, 1921, as follows: 793,618.55 gourdes and \$216,870.92. Consular fees for the fiscal year 1920–21 amounted to \$13,180.57.

URUGUAY.

BUDGET.—In December Parliament extended the budget of expenditures for 1921 for an additional month, that is, until February 28, 1922.

VENEZUELA.

PUBLIC DEBT.—According to information of the Caracas branch of the Dutch West Indian Bank, published in *El Nuevo Diario* for January 9, 1922, the public debt of Venezuela, in December, 1921, amounted to 124,859,319.19 bolivars. The population of the country being 2,411,952, this means a per capita debt of 51.76 bolivars. With the exception of the Treasury bonds, the public debt pays 3 per cent annual interest. The issues of 1903, 1904, and 1905, which amount to 5,733,490.56 bolivars, are the only ones to which Congress has not yet assigned sums for amortization. The 3 per cent diplomatic debt of 1905, which originally amounted to 130,000,000 bolivars, has been reduced 46 per cent by amortization and expiration; that is, to 70,000,000 bolivars.

NEW BANK BUILDING.—The National City Bank of New York has just opened the building which will be occupied by its Caracas branch. The edifice, which is one of the most beautiful in the city, is a copy on a smaller scale of the New York Bank.



ARGENTINA-BOLIVIA.

RAILWAY CONVENTION.—On January 4, 1922, the minister plenipotentiary of Argentina in Bolivia and the Bolivian Minister of Foreign Affairs signed in La Paz the agreement for the construction of the railroad from Yacuiba to Santa Cruz. The preliminary surveys

will soon be commenced, and the construction started as soon as the route is approved. Argentina will appropriate the money necessary for building the line, although Bolivia may also contribute a certain amount of capital if it is thought necessary. When the line is finished branches will be constructed to Sucre, Cochabamba, Tarija, Puerto Suárez, and the Gran Chaco. The Government of Bolivia, which will have favorable rates on the railroad, may acquire the line, material, and accessories at any convenient time by paying the cost of the work. Bolivia will supply the railroad with petroleum for its service needs.

Other parts of the convention establish agreements of great importance for the colonization of eastern Bolivia and the commercial development of the whole Republic.

ARGENTINA-COLOMBIA.

ARBITRATION TREATY.—On August 12, 1921, ratifications of the arbitration treaty between Colombia and Argentina, signed in Washington January 20, 1912, were exchanged in Buenos Aires.

BRAZIL.

INDEPENDENCE OF ESTHONIA.—By decree No. 15155 of December 5, 1921, Dr. Epitacio Pessoa, President of the Republic, recognized the independence of Esthonia.

POSTAL MONEY ORDER CONVENTION.—By decree No. 15145 of November 28, 1921, the President of the Republic has ordered the execution of the postal money order convention between Brazil and the United States, sanctioned by legislative decree No. 4312 of August 7, 1921.

CHILE-COLOMBIA.

CONVENTION REGARDING ACADEMIC DEGREES.—The Colombian law No. 60 of December 28, 1921, approves the convention between Colombia and Chile regarding academic degrees and diplomas and the exercise of liberal professions. The convention was signed in Santiago June 23, 1921, by the envoy extraordinary and minister plenipotentiary of Colombia and the Minister of Foreign Relations of Chile.

COSTA RICA-FRANCE.

POSTAL TREATY.—The Governments of France and Costa Rica have agreed to change Article 3 of the postal treaty of November 9, 1899. By this change the remitter of funds will pay the tax in the country of origin. All postal orders for official uses of the post offices or dependent branches of the same are exempt from tax. The office issuing postal orders will pay to the office which cashes them 1 per cent on the first 100 francs and one-half per cent on sums in excess.

This additional act to the treaty was signed in duplicate in Paris. December 15, 1921, by the plenipotentiaries of both countries and was approved in Costa Rica by President Acosta on January 20, 1921.

DOMINICAN REPUBLIC.

PARCEL POST.—The Republic has ratified the convention of Madrid regarding parcel post.

ECUADOR-GREAT BRITAIN.

POSTAL MONEY ORDERS.—The postal money order convention between Ecuador and Great Britain, signed May 31, 1916, has been put into effect in Ecuador by regulations issued December 29, 1921, by the President. Guayaquil and Quito, and through them the provincial capitals, will serve as offices of issue and payment.



BRAZIL.

RIO GRANDE MEAT CO.—President Epitacio Pessoa has issued decree No. 15119 of November 16, 1921, authorizing the Rio Grande Meat Co. to operate in the Republic, and approving the by-laws of the said company.

The company will have for its object the industry of fresh and packed meats and will start with a capital stock of 2,000,000 milreis, divided in 2,000 shares of 1,000 milreis; to be fully paid up at the time of signing the by-laws. The company has its head office in the city of Pelotas, Rio Grande do Sul.

LEASE AND CONSTRUCTION OF SANTA CATHARINA RAILWAY.—By decree No. 15152 of December 2, 1921, the President of the Republic authorized the celebration of a contract with the State of Santa Catharina for the leasing of the Santa Catharina Railroad and its dependent fluvial navigation. The contract has for its objects the leasing of the section of the road between Blumenau and Hansa, 69 kilometers in length, as well as the section of river navigation between Itajahy and Blumenau, and the construction of the extension of the road as far as the mouth of the Trombudo River, a length of 35 kilometers, according to the plans approved by decree No. 10818 of March 18, 1914.

COTTON CLEANING AND PRESSING.—Dr. Epitacio Pessoa, President of the Republic, has issued a decree dated December 13, 1921, providing for the establishment of plants in the cotton ports of the Union for the purpose of cleaning and pressing the product prior to shipment. The principal requirements of this decree may be summed up as follows:

The minimum density of the presses is to be of not less than from 500 to 600 kilos per cubic meter; the services of pressing and cleaning are to be paid for at rates fixed by the Federal Government. The plants will be exploited directly by the Union Government or leased or sold in view of public calls for tenders, provided the price obtained is sufficient to cover the expenses involved in putting up the plants. In case the plants are exploited directly by the Union they will be in charge of the cotton service; in case the plants are leased or sold the lessees or purchasers will engage to operate them on such conditions as may be laid down by the Federal Government.

SERVICE BADGE.—An act of Congress, signed by the President on December 18, 1921, provides for the creation of a service badge to be awarded to all officers and men in all branches of the service, as well as civilians, who served in the World War. The design on the badge will be determined by decree of the Federal Government.

CHILE.

HIGHWAY CONSTRUCTION LAW.—A law governing the construction and maintenance of all future highways has been passed by Congress. Governors, acting in conjunction with departmental boards, are given power to enforce the law, which is expected greatly to benefit the system of public roads.

EXPORT OF ALCOHOL.—The treasury department has issued a decree regulating the export of alcohol, liquors, wines, and beer in compliance with the terms of law No. 3087, promulgated in 1916. The decree authorizes the export through any seaport or mountain pass of all aforementioned products not subject to tax rebates or to bounties now in force.

COASTING-TRADE LAW.—Following its approval by the Chamber of Deputies, the Senate has passed the bill which reserves all coasting-trade of the Republic to the Chilean merchant marine.

The right to engage in coastwise trade between Chilean ports may be conceded by the President to the ships of other South American nations which have given equal privileges to Chilean ships.

The foreign vessels which only occasionally make voyages to Chilean ports must not take part in the coastwise trade after the promulgation of the present law (February 6).

The law goes into effect 6 months after promulgation.

COLOMBIA.

GOVERNMENT BANK.—The acting minister of finance sent to Congress in January a bill for the creation of a bank somewhat similar to the Federal Reserve Bank of the United States. The money to be used is the \$25,000,000 which will be paid according to the terms of the recent treaty between the United States and Colombia.

The first three articles of the bill are as follows:

Article I. The Government will organize and establish a bank, which, serving as agent for the execution of fiscal operations, shall aid in the development of national industries. It will be called The Bank of the Republic, and its capital will be \$25,000,000, provided by the national treasury, the sum to be received according to the treaty of April 6, 1914, between Columbia and the United States being destined to this purpose.

Article II. Said institution will have the character of a Government bank; but other national banking firms may be shareholders in it, as well as every Colombian, either native or naturalized, provided that the person or firm take a minimum of 5,000 shares. The capital of the bank will be divided into 250,000 shares of a value of \$100 each.

Article III. The bank will carry on operations permitted by present or future laws to banks which are or may be established in the Republic, and will be governed in conformity with statutes determined by its governing board and approved by the Government.

The remaining articles of the bill refer to the creation of a mortgage section; loans; issue of notes; gold reserve; bank bills as legal tender; the governing board which, with the manager, is to be appointed by the Government; branch banks in department capitals; rate of interest; and other subjects which must be taken into consideration.

COSTA RICA.

MINES BULLETIN.—On January 1, 1922, the department of mines began to publish a monthly bulletin, giving decrees, commentaries thereon, and regulations governing the mining industry of Costa Rica, as well as information as to the mineral wealth of the country.

CUBA.

LEGATIONS.—The President has issued a decree authorizing the expenditure during the second half of the present fiscal year of sums in payment for supplies, house rent, and salaries of subordinate employees for the legations of the Republic as follows: For the legations in Colombia, Norway, Panama, Peru, Portugal, Santo Domingo, Switzerland, Uruguay, and Venezuela, \$2,000 each; for those in Bel-

gium, China, Holland, Italy, and Japan, \$2,400 each; for that in Mexico, \$2,500; for those in Germany, Argentina, Brazil, Chile, Spain, France, Great Britain, and Central America, \$3,300 each; and for that in the United States, \$6,000.

DOMINICAN REPUBLIC.

INSOLVENCY LAW.—Executive order No. 699 contains the law regarding insolvency, treating in detail the cases which may occur and the procedure to be followed in each.

PARAGUAY.

CONSULAR MANIFESTS AND BILLS OF LADING.—The President, in conjunction with the customhouse expert and the general bureau of customs, has issued regulations covering the form of issue of consular manifests and bills of lading. They cover all the requisite formalities to be complied with in the port of origin of the shipment, form of declaration for merchandise, required weights, freight, insurance, and other details. Regulations are also given for overseas cargo with destination for Paraguay which is transshipped in intermediate ports. This decree goes into effect March 1, 1922.

IMPORTS BY PARCEL POST.—The President has issued a decree the purpose of which is to insure the payment of duties on merchandise received from foreign countries by parcel post, either insured or uninsured. Before the publication of this decree, which went into effect January 15, 1922, parcel post was not an authorized method for importing merchandise.

PERU.

PETROLEUM LAW.—Law No. 4452 of January 2, 1922, covers exploration for and exploitation of petroleum and other hydrocarbons. Some of the chief provisions of the law are as follows:

Applications for exploration and exploitation shall be made to the ministry of promotion (fomento). The superficial area of concessions shall be divided into areas of 40,000 square meters each, called *pertenencias*. Exploration concessions, which are granted for two to six years, may not exceed 15,000 *pertenencias* on the coast, 20,000 in the foothills, and 30,000 in the mountains, while exploitation concessions, granted for an indefinite period, may not be greater than 1,000 *pertenencias*, which must, as in the exploration area, be arranged in a rectangular block. The concessionary is required to pay the state at least 10 per cent of the gross petroleum extracted from the wells during exploration or exploitation, if the deposits are situated within 150 kilometers of the sea, and otherwise a minimum of 6 per cent. There is also a ground tax of 1 Peruvian pound per *pertenencia* of the con-

cession when no petroleum is being produced, and one ranging from 9 to 0.50 sol per pertenencia as the production reaches 1 to 10 tons. Crude petroleum and derivatives are exportable only after the consumption of the country has been satisfied. The Government will maintain employees to ascertain the cost and amount of production and the price of sale of the products destined for national consumption. The petroleum is subject to export tax, or any impost substituted therefor. Concessionaries have the right to establish wharves, warehouses, and submarine and subfluvial pipe lines, and to expropriate private, national, or municipal property necessary for the development of the exploitation work. Those constructing pipe lines shall be obliged to allow their use by neighboring concessionaries who have none, and owners of refineries must refine the petroleum of other producers, provided that the plant has a capacity above the owner's requirements.

TRANSFER OF GOLD FUNDS.—The transfer to a New York bank of the gold fund, which amounts to between \$18,000,000 and \$20,000,000, was authorized by law No. 4454 of January 4. Interest will therefore henceforth be earned by the gold which, with further deposits in the Bank of England, guarantees the bank notes issued by Lima banks under Government authority.

URUGUAY.

AMUSEMENT CENSORSHIP.—The departmental council of Montevideo has created a commission for the protection of children, which has power to prohibit the attendance of all children under 14 at any public spectacle not approved by the commission. When a theatrical, moving picture, or other amusement program is announced, the advertisement must state whether children are to be allowed. Children may attend only those moving-picture performances which show scientific, current topic, scenic, and suitable comedy films—in general, those offering simple and inoffensive entertainment.



ARGENTINA.

UNIVERSITY REGISTRATION.—During 1920 the registration in the University of Buenos Aires was 12,441 students, distributed as follows among the different colleges and schools: Law and social science, 1,329; medicine, 5,712; physical, natural, and exact sciences,

1,068; agriculture and veterinary science, 570; economics, 365; philosophy and letters, 308; National Preparatory School of Buenos Aires, 1,495; and the Carlos Pellegrini Advanced School of Commerce, 1,594.

SCHOOLS IN TERRITORIES.—The general inspection division for the Territories has been authorized by the national education council to start 615 new schools, for which money was appropriated by the 1921 budget law.

PSYCHOLOGICAL AND PHYSICAL TESTS.—The military aviation school at El Palomar now has a laboratory completely equipped for giving psychological and physical tests to the students of the school.

NEW SCHOOL OF AERONAUTICS.—The board of directors of the Argentine Aero Club has resolved to start a school of aeronautics at San Isidro, to which the Government has given two 100-horsepower Caudron airplanes. A pilot's course is being offered to members of the club. The practical mechanic's courses will last two months, and will be given on a Curtis 90-horsepower biplane. An Argentine pilot has opened a school for instruction in airplane mechanics at the Villa Lugano aerodrome.

TEACHERS' LEAVE.—See page 417.

BOLIVIA.

SCHOOL BUILDING.—Sr. Alfredo Schmidt has presented to the government of the Department of Santa Cruz a beautiful building for the boys' and girls' school at El Puente in the Province of Ñuflo de Chávez.

CHILE.

AMENDMENT OF EDUCATIONAL CURRICULA.—In order to reform the existing curricula of public schools and adapt them to modern pedagogic and economic requirements, as well as to broaden the scope of all subjects dealing with the study of Chilean and continental history, the ministry of public instruction requested that a special committee be appointed. The latter, composed of educational experts, representatives of the university, the board of public education, the board of primary education, and of the other branches of the service, has already begun the consideration of its task.

COLOMBIA.

PROFESSOR OF AGRICULTURE.—The Government has engaged a German professor of agriculture for the Advanced School of Agriculture in Bogotá. Besides teaching he will have charge of the tropical plants cultivated at the Government experiment station, and will report on agricultural progress in the Republic, advancing it in every way possible.

COSTA RICA.

SUBPRIMARY SCHOOL SOCIETY.—A society known as the Patronato de las Escuelas Maternales has recently been approved by the President. The aim of the society, which is to have branches in all parts of the Republic, is to promote the founding of subprimary or day nursery schools for children from 3 to 7 years of age. The association will be located in San José. Instruction in these day nursery schools will be free, but pay pupils may be admitted when they belong to families able to afford it.

CANAL ZONE TEACHERS VISIT COSTA RICA.—The principals of the high schools of Ancón and Balboa, Canal Zone, visited Costa Rica and were most generous in praise of the No. 2 Advanced Girls' School, both for its construction and its organization.

CUBA.

ACADEMY OF TELEGRAPHY.—Last November the Academy of Telegraphy of the Department of Habana was officially inaugurated. The wireless section is provided with the most modern apparatus and equipment; there are two stations for receiving and transmitting messages, and a receiving apparatus for extra-length waves which registers messages sent from the Eiffel Tower, Nauen, and other stations in Europe and in South America. This section also has a direct current generator, two for alternating current, amplifiers, and other accessories. In the wire telegraphy department, modern innovations in apparatus, mounting, and installation have been introduced, as well as line circuits and all other equipment necessary to give the student an exact knowledge of telegraphy.

SCHOLARSHIP PRIZES.—Señora Piedad Aenia de Bobadilla, daughter of the well-known poet Juan Clemente Zenea, has willed \$10,000 to the University of Habana to be used in encouraging the love of learning and advanced study. With the interest of the money two prizes will be established, one to bear the name of Emilio Bobadilla (Fray Candil), and the other of the donor.

DOMINICAN REPUBLIC.

KINDERGARTEN ANNIVERSARY.—The first kindergarten in the Republic, founded by Señorita María Amiana, a graduate of Columbia University, celebrated its eleventh anniversary in January. Besides children of kindergarten age, the school takes pupils up to the age of 11, who are taught by a faculty of nine teachers trained by the founder and principal of the school.

ECUADOR.

GERMAN TEACHERS.—Through the consul of Ecuador in Berlin, the President engaged 11 German teachers for the Quito normal schools;

they arrived early this year. The ministers of foreign affairs and of public instruction of Germany approved the teachers selected.

GUATEMALA.

SCHOOL OF PHARMACY AND NATURAL SCIENCE.—The school mentioned was reorganized in September. It offers a good course to its students, and has provided ample laboratory facilities for their use. The museum of zoological specimens contains specimens of native and foreign fauna.

TIME SCHEDULE.—The inspection section of the department of public instruction has worked out a schedule for the time to be given to subjects in the elementary and complementary courses of the primary schools of the capital. Approval has been given by the department.

CONSERVATORY OF MUSIC.—The National Conservatory of Music is to receive larger appropriations to increase its efficiency.

HAITI.

MEMBERS OF EDUCATIONAL COUNCILS.—The members representing public and free instruction in the national council of the University of Haiti and in the regional councils are chosen by secret ballot at the vote of the majority of the teaching personnel in schools of all three grades of instruction. The elections are held under the school inspectors a month before the terms of the incumbents expire.

POLICE SCHOOL.—Last fall a school for educating future officers of the gendarmerie was established. The course lasts two years, and is open to young men between 19 and 23 years of age.

HONDURAS.

HIGH SCHOOL.—The municipality of Danlí and charitable persons of the vicinity are to establish a school for poor boys who have finished their primary education.

PRO-AVIATION COMMITTEE.—The young men's club interested in the advance of aviation in the country is about to order airplanes from Italy for the equipment of the first Honduran school of aviation.

MEXICO.

RAILWAY SCHOOL.—The technical education bureau of the department of education, convinced of the importance of adequate preparation for railway employees, has decided to establish a school which will prepare men for such employment. A modern building is being erected in San Jacinto at a cost of 150,000 gold pesos. The school will prepare skilled engineers and machinists and men trained to operate rolling stock, automatic brakes, signals, and the telegraph, to make

train charts, to perform station service, and to plan the movement of freight and passengers.

INSTRUCTION IN THE GRAPHIC ARTS.—The National School of Graphic Arts was opened in February. It offers complete courses in typography, linotype operation, photogravure, drawing, and type casting. Hundreds of applications for entrance were received, and it is confidently expected that this school will give a powerful impetus to the national printing industry and the graphic arts.

NICARAGUA.

MINE NIGHT SCHOOL.—The Eden mine now has a night school for the workmen under the direction of a Catholic priest, who has also been director of the school for boys in this locality.

TELEGRAPH SCHOOL.—The College of the Salesians has instituted a course in telegraphy.

PANAMA.

GRADUATE NURSES.—The school of obstetrics attached to Santo Tomás Hospital recently graduated a class of trained nurses and midwives. President Porras presented the diplomas and made an address at the graduating exercises.

PARAGUAY.

ARTIGAS SCHOOL.—Work on the Artigas School in Asunción, named in honor of the Uruguayan patriot who died in that city, is well advanced. The Government of Uruguay, which will take part in the inauguration ceremonies, has expressed the wish that the opening of the school take place on May 14, Paraguay's independence day.

VOCATIONAL SCHOOL FOR WOMEN.—The plans for the building to be erected for a women's vocational school have been presented to the department of public instruction for approval; the cost will be 1,326,000 pesos legal currency. The school is to be built in memory of Señora Rosa Peña de González, a well-known educator.

SURGICAL CLINIC.—The school of medicine, through the department of public instruction, has engaged Prof. Pietro Marogna, of the surgical clinic of the Genoa Medical School, for the corresponding chair in the Paraguayan institution.

PERU.

ACADEMIC DEGREES.—A special commission has been created to grant degrees and titles to the graduates of universities and other private institutions of learning. All university and other authorities wishing their students to be eligible to the degrees conferred by this

commission must submit for approval their courses of study, the students' certificates of admission, and the credentials of the members of the faculty.

SALVADOR.

NEW SCHOOL.—The Colegio Felipe Solano, a new school opened in La Unión for primary instruction, is to follow the most approved methods.

EVENING BUSINESS SCHOOL.—On January 15 evening classes in business and finance were opened in the building of the Clerks' Association of Salvador.

URUGUAY.

SCHOOL OF MECHANICAL, ELECTRIC, AND ELECTRO-MECHANICAL TRADES.—A school embracing these subjects has been created by the upper council of industrial instruction through the combination of the machine shops from Industrial School No. 1 and the School for Apprentices in Electrical Work, dependent on the State electrical shops.

VENEZUELA.

SCHOOL OF COMMERCE.—By executive decree a school of commerce has been created in Barquisimeto.



ARGENTINA.

VACATION COLONIES FOR DELICATE CHILDREN.—On December 12 the vacation colonies for delicate children were opened in Avellaneda Park for the third season; the number registered far outnumbered the estimate. The accommodations in Parque Avellaneda and the Rural Society grounds are for 2,000 children.

In the Parque Avellaneda there is a refrigerated milk station which can keep more than 1,000 quarts of milk cold for over 30 hours. This milk is all certified by the city authorities and is furnished to the vacation colonies. Paper cups, napkins, and towels are used and everything is arranged in the most sanitary manner.

The colonies are managed by the national council of education and paid for by the municipality of Buenos Aires, in whose budget they

have been made a permanent item. The report for last year describes a typical day:

The children came from their homes in the early morning, and at the sound of a bell formed for inspection. Baths of different sorts were given, and then the children were summoned to an open-air breakfast. Meanwhile the teachers were arriving and receiving their assignments of games and other recreations for the day. At a quarter past 9 each teacher set out with her singing group for one of the 33 sectors, some children leading donkeys or other animals, others ready to feed and care for the chickens, and still others provided with hoops, tennis racquets, jumping ropes, balls of various kinds, or other implements for games. Many carried gardening tools; others had brooms and shovels to put the park avenues in a tidy condition. The tiny tots had their dolls and doll carriages. Systematic exercises, games of all kinds, drawing, modeling and other manual training, singing, story-telling, and dramatics filled the morning, the occupation being changed twice in that time.

After a nourishing luncheon and a short stroll, the children took a nap in steamer chairs under the shady trees. The afternoon was passed with games in still other sectors, the teachers making use of favorable opportunities to give incidental lessons in nature study, geography, history, ethics, and courtesy. After an afternoon lunch the street car tickets were given out, and at 5 o'clock the children started home. "To-morrow the daily enigma and the hope of the soul athirst for the ideal."

TEACHERS' LEAVE.—The national council of education has dictated a resolution to the effect that in the future all pregnant women employees, whether teachers, executives, or laborers, will be allowed 60 days' leave with pay, dating from the first of the ninth month or before, if the medical inspector of the school judges that their state of health will not permit them to discharge their duties.

LABOR ACCIDENTS.—The report of the accident section of the department of labor, Province of Buenos Aires, for 1921 is as follows: Actions filed, 11,691, showing an increase of 2,900 compared with 1920; compensation deposits in the Banco de la Provincia, 301,499.05 pesos, covering 33 fatalities with a compensation of 133,643.09 pesos; 1 case of permanent total incapacity, 2,796.44 pesos; and 181 of permanent partial incapacity, 615,059.52 pesos. The preceding figures show that 15.4 per cent of the cases were fatal; 0.4 per cent led to permanent total incapacity; and 84.2 per cent produced permanent partial incapacity, making a total of 215 indemnified cases.

The deposits made in the accident section from the time it was created are as follows: In 1917, 38,321.80 pesos; in 1918, 47,159.08 pesos; in 1919, 161,437.41 pesos; in 1920, 212,444.42 pesos; and in 1921, 301,499.05 pesos.

PUBLIC LIBRARIES.—The number of Argentine libraries founded and maintained by the State has increased in the following proportion: In 1910 there were 191 libraries; in 1911, 210; in 1912, 229; in 1913, 226; in 1915, 433; in 1916, 522; in 1917, 625; in 1918, 720; in 1919, 825; and in 1920, 885. It was expected that in 1921 they would increase to 1,000. There are also 2,128 school libraries and 473 public circulating libraries, also maintained by the State.

BRAZIL.

CHILD WELFARE.—In connection with the meetings of the Third Pan American Child Welfare Conference and the first Brazilian conference of the same nature, which are to be held in Rio de Janeiro just previous to the centennial exposition in September, the following paragraphs from a letter received by the Director General of the Pan American Union from Dr. Duprat, of the port health inspection service of the State of Rio Grande do Sul, may be quoted as showing the trend of Brazilian thought and activity:

Since 1913, we have been endeavoring ourselves to get up to date all our institutions of public interest, specially those connected with the welfare of infancy, not only whilst under the maternal care, but also of infancy at school. Regretfully, our work was severely interrupted by the Great War. * * *

They are full of truth, the words pronounced by Lord Curzon, at the International Congress of Tuberculosis just held at London, when he says that a world solidarity of intellectual men is far more lasting and proficous (beneficial) to the human kind than the international understandings amongst politicians.

CHILE.

DEPARTMENT OF SOCIAL WELFARE CREATED BY THE ASSOCIATION OF NITRATE PRODUCERS.—This noteworthy initiative on the part of an organization which comprises practically all the nitrate interests of the country has met with general approval, since it will tend effectively to settle the differences which continually arise between capital and labor in the most important industrial region of Chile. The new department will undertake the study of all problems connected with the camps, their comfort, spaciousness, appearance, cleanliness and other factors relating to the health and welfare of the workingmen. Furthermore, it will endeavor to encourage education through the establishment of night schools and educational centers. It also plans to maintain dispensaries giving free medical attention and medicine.

CHILEAN RED CROSS.—In harmony with the humanitarian principles underlying the world-wide movement promoted by the Red Cross, the Chilean national society, taking advantage of the Christmas holidays, organized a vast drive in the interest of public health and the enrollment of new members. Numerous benevolent and charitable organizations cooperated in the drive, which was highly successful and represents the first effective step taken by the Chilean Red Cross to arouse public opinion and enshrine itself permanently in the hearts of the people. As is well known, two central bodies, the International Committee of the Red Cross and the League of Red Cross Societies, both located at Geneva, help to coordinate the activities of the various national societies throughout the world.

COSTA RICA.

RED CROSS SMALLPOX PREVENTION.—The Costa Rican Red Cross has sent out 3 sanitary commissions with stocks of smallpox vaccine. Each commission is composed of a medical practitioner and an aide who is a member of the Red Cross. All are under the direction of a physician.

CUBA.

MARIANAO PLAYGROUND.—The children's playground in Marianao was opened the latter part of January. It is thoroughly equipped with modern playground apparatus planned to give both entertainment and healthful exercise. There is a special section for tiny tots between 2 and 5 years of age where, in accordance with the best playground practice, amusements appropriate for their age are provided in a shady place, away from the larger children.

DOMINICAN REPUBLIC.

PRIVATE HOSPITAL.—A Venezuelan physician has opened in Santo Domingo a private hospital provided with European and American apparatus for giving electrical treatment and making microscopical and bacteriological examinations.

SMALLPOX.—The sanitation office of Santiago district has issued regulations requiring the reporting of every case of smallpox, under penalty of a fine of \$25 or 25 days in prison.

LEPER HOSPITAL.—A new leper hospital has been opened in Nig-napor.

MEDICAL INSPECTION.—During the first quarter of the school year 87 visits of inspection were made, 612 children examined, and 93 sick children and 11 cases of transmissible disease found.

ECUADOR.

VENEREAL PROPHYLAXIS.—A dispensary and laboratory for the venereal prophylaxis service are to be opened in Quito, under regulations modeled after those of Uruguay, Argentina, the United States, and France. The necessary dispensaries will also be established in Guayaquil.

HAITI.

FREE DISPENSARY.—The St. Francis de Sales Hospital of Port au Prince is open every morning to free patients. Children as well as adults are treated, and dressings and minor surgical operations are performed three times a week. The operating room is well equipped for its work.

MEXICO.

CAMPAIGN AGAINST COMMUNICABLE DISEASES.—The Federal sanitary department is energetically continuing the campaign against communicable diseases, and has reduced in a noteworthy manner the severity of epidemics occurring in the country. Smallpox vaccination is being continued on a large scale, as well as disinfection for protection against typhus. As a result of spreading oil on pools of water, excellent results have been obtained in the fight against yellow fever, the cases of fever and deaths caused by the disease being reduced last year to 115 and 53, respectively, as against 505 and 249 reported in 1920.

SCHOOL BREAKFASTS.—In view of the beneficial results obtained by instituting free breakfasts for poor children in the public schools, the department of education has allotted 500,000 pesos of its budget to the maintenance and development of this service. At present more than 20,000 breakfasts are served daily in various schools of the capital. The food is prepared in special kitchens.

NICARAGUA.

PETITION FOR PRISON SCHOOL.—One of the ex-convicts of the general prison, pardoned in connection with the Centenary celebration, has asked permission to continue to instruct those who were his fellow prisoners. As he was a teacher by profession, while serving his sentence he taught the other inmates of the prison, and now that he is free he wishes to continue the good work.

PANAMA.

PLAYGROUND OF THE TEACHERS' NORMAL SCHOOL.—The playground of the Teachers' Normal School was recently opened in Panama City. It contains a tennis court, a basket-ball court and ample space for other exercises.

PERU.

DAY NURSERY.—The Central Market Day Nursery in Lima cares for more than 120 children a day and gives them three meals. Two trained nurses from Germany are in charge, and there is a kindergarten taught by a graduate teacher.

THIRD CHILD WELFARE CONGRESS.—Dr. Carlos Enrique Paz Soldán, professor of hygiene in the medical school, has been appointed chairman of the Peruvian committee on participation in the conference to be held in Rio de Janeiro in connection with the celebration of the centenary in September of this year. The other members of the committee include several women. A questionnaire has been sent

out, and the committee hopes to present to the congress as full information as possible on Peruvian child welfare.

YELLOW FEVER.—From July to December 31, 1921, there was no case of yellow fever in Peru. The physician in charge of the campaign against the dreaded disease wrote at that time that although the country was free from yellow fever he considered it of the highest importance to continue the work for some time longer, until the disappearance of the disease not only from Peru but from the entire west coast of South America.

BACTERIOLOGICAL LABORATORY.—The municipal laboratory of Lima prepares rabies and typhoid vaccine, the latter having been given to 7,000 persons in 1921. Examinations of blood and sputum for typhoid and tuberculosis diagnoses are made free for the poor. A daily analysis of the city drinking water shows it to be free from typhoid germs, thanks to the constant use of chlorine and aluminum sulphate.

SALVADOR.

HOSPITALS.—In December new hospital accommodations were opened in two places; the Hospital Salazar in La Libertad and a tuberculosis ward in Santa Ana.

VACCINATION BUREAU.—The number of persons vaccinated throughout the country in the week ending December, 1921, were as follows, by departments: San Salvador, 600; Santa Ana, 457; San Miguel, 785; La Libertad, 214; Sonsonate, 1178; Ahuachapan, 278; Cuscatlan, 125; La Paz, 105; San Vicente, 162; La Union, 61; Chalatenango, 67; Cabañas, 62; Morazan, 78; total for the week, 4,152. The total for the same places during the week ending December 10 was 4,246, or 8,398 persons vaccinated in the Republic in two weeks.

URUGUAY.

BABY WEEK.—Baby week was held from December 19 to 24, 1921, in Montevideo. An instructive exhibition was displayed in the Ateneo, where daily lectures on various aspects of child care were given. The subjects included milk stations, by Dr. Bonaba; proper clothing and living conditions, by Dr. María Armand Ugón; and other related topics, discussed by Dr. Duprat, Señor Pucci, and Dr. Luis Morquio. Mothers were invited to bring their babies for a competition, when money prizes were given the 7 mothers who were considered to have best cared for their children, while the 20 healthiest babies also received awards.

DAY OF REST.—The weekly day of rest has been granted to postmen in Montevideo.

URUGUAYAN ANTI-TUBERCULOSIS LEAGUE.—Last month's BULLETIN gave a statement of the means through which the league is now

carrying on its beneficent work. The figures of what it has accomplished since its foundation in 1902, when 6 patients were under its care, are of much interest: Eleven thousand nine hundred and thirty-five patients have been cared for; 3,755 persons have been cured and returned to useful work; 38,964 persons under observation have been given training in hygiene and provided with the means of disinfection; 14,378 visits have been made to patients, both to care for them and to improve their living conditions; and apart from the extraordinary distributions made by the women's committee and the amount spent for housing, material assistance has been given to the extent of 983,022 kilos of meat, 879,781 kilos of bread, and 1,956,367 liters of milk.

URUGUAYAN RED CROSS.—Last December, in the presence of the minister of war and naval affairs and a distinguished company, the president of the Uruguayan Red Cross conferred diplomas and arm bands on 63 voluntary Red Cross nurses. Among the peace-time activities of the Red Cross are relief work in case of floods and other disasters, and hygiene propaganda. A novel form of service is the erection of supplementary warning signals at dangerous points along the coast.

AMUSEMENT CENSORSHIP.—See page 411.

VENEZUELA.

FOURTH MEDICAL CONGRESS.—The fourth meeting of the Venezuelan Congress of Medicine will take place in Caracas during December, 1924, when the Republic celebrates the first centenary of the Battle of Ayacucho. The chief object of this congress is to carry out a complete study of the diseases prevalent in the country and of methods of prevention and cure. It therefore forms an institution whose purpose is the study of tropical hygiene and pathology as related especially to Venezuela. The third congress met in Valencia in June, 1921.



GENERAL NOTES

ARGENTINA.

INTERNATIONAL LAW ASSOCIATION.—The board of directors of the Argentine section of the International Law Association has received word from the general secretary in London, accepting the Argentine suggestion for advancing the date of the meeting in Buenos Aires in

1922, in order to allow members to be present at the celebration of the Brazilian centenary. The London executive council has decided to charter a steamer sailing July 29. It will have on board the majority of the European internationalists going to the conference, which will open August 24. Among those from Great Britain will be Viscount and Lady Cave, Lord and Lady Phillimore, Sir Henry Duke, president of the high admiralty court, Lord Justice Major Younger, and the lord chancellor, Viscount Birkenhead. A large group from the United States is expected, and many French, Belgian, Dutch, Swedish, Norwegian, Italian, and Spanish jurists have also registered. Professor Niemeier, director of the German Review of International Law, Dr. Simons, former minister of foreign affairs, and eight other prominent men are going from Germany.

BOLIVIA.

EXPERIENCES OF SCIENTIST.—Through the courtesy of his Excellency the Minister of Bolivia in the United States the BULLETIN is privileged to quote parts of a letter received by him from Mr. E. L. Hoffman, third vice president and statistician of the Prudential Insurance Co.:

I recently returned from an extended trip to South America, including a stay of some four months in the Republic of Bolivia. My journey was for the purpose of a scientific investigation into problems of tropical acclimatization, tropical diseases, etc., including anthropological and anthropometrical investigations, particularly in the lower end of eastern Bolivia. My journey, in brief, through your country was from La Paz to Canamina, and from there, via the Bopi and Beni Rivers, to Riberalta, with a side trip over the Madre de Dios and the Río Orton to Cobija and the Río Acre. The trip yielded results which, I feel sure, will be of profound interest and value to the different departments of science to which they refer. It will take some time, of course, before the results can be made public, on account of the magnitude of the material collected, but I anticipate no serious difficulties in this respect. * * *

In my judgment the Bolivian tropics, or semitropics, have been much and needlessly maligned by adventurers and explorers, seeking the abnormal or unusual, for the purpose of attracting public attention. In my own case I can bear witness to the fact that during nearly five months of contact with all classes of people, under all conceivable conditions, involving much hazard and disease exposure, I never met with a disabling accident, while I was never robbed of anything, or in personal danger, for any reason whatever, while at the same time I did not suffer an hour of illness, but returned to this country much improved in health and strength. In my judgment your Government should leave nothing undone to make the truth about Bolivia known to the American people, as one of the most promising fields for American enterprise on a large scale. * * *

BRAZIL.

NEW CONGRESSIONAL BUILDINGS FOR BRAZIL.—The expenditure of an amount not to exceed 12,000,000 milreis for the construction of new buildings for the Chamber of Deputies and the Senate has been authorized, according to a recent consular report. (*Commerce Reports.*)

BRAZILIAN DISCOVERY OF NEW EXPLOSIVE.—A new high explosive called brazilite is reported to have been discovered in Brazil. In experiments this explosive resisted without deflagration all mechanical and chemical tests. Assistant Trade Commissioner Bernard H. Noll states that it is claimed that the explosive does not give off gases prejudicial to the operator. During the experiments 5,650 grams were placed in a bored hole, 4 meters 65 centimeters in depth, and this charge, when detonated, displaced 200 cubic meters of granite. (*Commerce Reports.*)

CHILE.

DISTINCTION CONFERRED UPON THE AMBASSADOR OF THE UNITED STATES.—The Hon. William Miller Collier has been appointed honorary member of the faculty of law and political sciences of the University of Chile. An impressive ceremony marked the conferring of the honor.

EXHIBIT OF LATIN AMERICAN ART.—The board of fine arts, in a recent meeting, approved a resolution in favor of holding a great exhibit of Pan American art in Santiago not later than September, 1923. A committee was appointed to foster the plan.

COSTA RICA.

GUIDE TO COSTA RICA.—The ex-consul to Colón, Panama, has published a "Guide for Tourists in Costa Rica," thus filling a long-felt need. The book contains a synopsis of the country's history, territorial divisions, political administration, population, statistics, trade, and investment opportunities.

CUBA.

LITERARY PRIZES.—In the literary competition organized under the auspices of the Liga Patriótica Argentina in which writers and poets of all the Latin American nations took part, the second prize, 2,000 pesos and a gold medal, was awarded to Señor Luis Rodríguez Embil, consul general of Cuba in Germany, for his "Poem of Love and Death." The third prize, 1,000 pesos and a gold medal, was also won by a Cuban, Señor Gustavo Sánchez Galarraga; the title of his poem was "Hymn to America." The first prize was not awarded.

DOMINICAN REPUBLIC.

MONUMENT TO COLUMBUS.—A plan for a tomb to Columbus, surmounted by an immense lighthouse which would be a beacon far over the Carribbean, has been proposed by an American resident in Santo Domingo. There is still doubt, however, as to the actual burial place of the great discoverer, for the Spaniards claim that his remains are

entombed in the Cathedral of Seville, having been transported there from Habana, while the Dominicans are sure that his dust rests in Santo Domingo.

ECUADOR.

ECUADORIAN ACADEMY.—The Ecuadorian Academy, which is a correspondent of the Royal Spanish Academy, has been organized in Quito with the following charter members: Señor Quintiliano Sánchez, director; Archbishop Manuel María Pólit, Señor N. Clemente Ponce, Gonzalo Zaldumbide, Dr. Carlos M. Tobar y Borgoño, Señor Celiano Monge, and Señor José Rafael Bustamante.

GUATEMALA.

VITAL STATISTICS.—In Guatemala City during 1921, 4,304 children were born and 3,582 persons died, giving the city an increase of 722 in population.

POLICE PHYSICAL TRAINING.—The police force is to be given physical training in outdoor sports such as football, and instruction in boxing, wrestling, jumping, and fencing.

MEXICO.

SPECIAL RATES FOR TOURISTS.—The United States Commerce Reports state that, with the purpose of stimulating the influx of American tourists during the winter months, rates on the Mexican railways were considerably reduced for round trips. A ticket to Mexico City by way of Ciudad Juárez, returning through Laredo, Piedras Negras or Matamoros, was sold for \$60. Pullman cars on all the principal lines added to the comfort of the journey.

ARGENTINE ACTRESS.—In order to strengthen the intellectual ties between Argentina and Mexico and to make known the dramatic artists of the former country, the Government of Mexico, on the initiative of the department of public education, engaged the famous Argentine actress Camila Quiroga to give a series of performances in the theaters of Mexico City. These performances, which were extremely successful artistically, have tended to increase public interest in intellectual and artistic interchange between Hispanic American countries, and a series of contracts with the most prominent artists of the sister Republics is now being considered.

NICARAGUA.

POSTPONED CENTENARY CELEBRATION.—The celebration of the centenary of Nicaragua's independence, postponed from September, was celebrated on December 23, 24, and 25 with appropriate religious, military, and civil ceremonies, the reading of the act of independence,

a reception in the presidential palace, and the pardoning of prisoners. On those dates only correspondence bearing the special centenary stamps was received for mailing in the post offices.

MADRID HONORS DARÍO.—A circle in Madrid has been named after Rubén Darío, Nicaragua's famous poet. The agent of La Nación of Buenos Aires offered the offices of that paper in Madrid for the exhibition of a portrait of the poet painted by Vásquez Díaz, and a literary and musical evening was held at the same time.

CITY IMPROVEMENTS.—The city of Managua has undertaken the repair of the streets and the rebuilding of the central police station.

PANAMA.

MONUMENT TO FRENCH CANAL BUILDERS.—The Canal Zone Government and the municipality of Panama have offered substantial contributions toward the erection of the monument which is to commemorate the first builders of the canal. The de Lesseps family have informed the French chargé d'affaires in Panama that they would present to the Government of Panama for the monument a copy of the bust of de Lesseps belonging to the Suez Canal Co.; and the Government of Ecuador has sent a subscription of \$500 for the bas-relief to be placed at the base of the monument.

RED CROSS AIDS FLOOD VICTIMS.—The Red Cross of Panama aided in the collection of supplies for the victims of the floods in Darien. The United States cruiser *Ashville* took the clothing and food supplies to the flooded regions.

PERU.

MONUMENTS.—Peru is to expend 15,000 Peruvian pounds for a monument in Lima "to perpetuate in the Republic the regard and affection of Peru for the Mother Country." This will be dedicated on Columbus Day, 1924. Another monument will be erected in honor of Marshal Sucre on the centenary of the Battle of Ayacucho, December 9, 1924.

RECOGNITION OF POET.—Congress has voted a gold medal to the poet José Santos Chocano, who has recently returned to his native country after a prolonged absence.

SALVADOR.

NEW MUSICAL MASS.—The Salvadorean musician Azmitia has composed a new musical setting for the mass, which is to be sung in San Miguel Tepezontes.

URUGUAY.

AVIATION MEET.—A very successful aviation meet was held in Montevideo last December. Two Avros, two Spads, and a Salm

were piloted by daring aviators, who thrilled the audience by cork-screw and Immelmann turns, the "falling leaf," and "looping the loop."

VENEZUELA.

STATUE OF BOLÍVAR.—A bronze statue of Bolívar will be erected in the Plaza Bolívar of the city of Porlamar by the State of Nueva Esparta in commemoration of the recognition of the Liberator in the town of Santa Ana del Norte, in 1816.

NEW HOTEL.—In the latter part of last year the Gran Hotel Caracas, considered one of the most comfortable, modern, and luxurious of the city, was opened to public service. It has rooms with private bath, electric bells, and telephones. In connection with the hotel there is a farm where vegetables, poultry, and other animals are raised.

GLOSSARY.—Dr. Lisandro Alvarado, the well-known writer, has recently published an interesting Glossary of Indigene Words of Venezuela. The new work will be useful to etymologists, and is a valuable addition to research along this line.



SUBJECT MATTER OF CONSULAR REPORTS

REPORTS RECEIVED TO FEBRUARY 25, 1922.

Subject.	Date.	Author.
ARGENTINA.		
Budget estimate for the municipality of Buenos Aires for 1922.....	1921. Oct. 31	W. Henry Robertson, consul general at Buenos Aires.
Valuation of goods for assessment of duties.....	Nov. 9	Raleigh A. Gibson, vice consul at Buenos Aires.
Cereal prices week ending Nov. 10, 1921.....	Nov. 14	Do.
Destination of Argentina's principal exports Jan. 1 to Sept. 29, 1921.....	do.....	Do.
Official methods of food analysis employed in Argentina.....	Nov. 28	Do.
Argentine trade for nine months of 1920.....	Dec. 28	Do.
Condition of Buenos Aires banks at the end of November, 1921..	Dec. 31	W. Henry Robertson.
1922.		
Argentine State railways.....	Jan. 2	Wilbert L. Bonney, consul at Rosario.
Shipping and navigation in 1921.....	Jan. 11	W. Henry Robertson.
BOLIVIA.		
Total exports of tin from Bolivia for December, 1921.....	Feb. 3	W. Duval Brown, consul at La Paz.
BRAZIL.		
1921.		
Installation of self-measuring gasoline curb pumps in Pernambuco	Dec. 3	C. R. Cameron, consul at Pernambuco.
Hog raising in southern Brazil.....	Dec. 7	Samuel T. Lee, consul at Porto Alegre.
Automobile roads in Pernambuco.....	Dec. 10	C. R. Cameron.
Sugar exports first six months of 1921.....	Dec. 16	Do.
Brazilian cotton exports first six months of 1922.....	do.....	Do.
Report on the Babassu nut.....	Dec. 27	Do.
Cotton shipments from Recife, 11 months of 1921.....	Dec. 29	Do.
Report on the Cashew (Caju) fruit and nut.....	Dec. 30	Do.
Fisheries and the market for fish products.....	Dec. 31	Geo. H. Pickrell, consul at Para.
1922.		
New steamship line touching Pernambuco.....	Jan. 9	C. R. Cameron.
Present outlook for beef industry in Rio Grande do Sul.....	Jan. 15	Samuel T. Lee.
Possibilities for American live stock in Brazil.....	Jan. 21	A. Gaulin, consul general at Rio de Janeiro.
CHILE.		
1921.		
Crop reports.....	Dec. 6	Dayle C. McDonough, consul at Concepcion.
Market for optical goods.....	Dec. 9	B. C. Matthews, vice consul at Antofagasta.
Report on general commercial information on Chile, imports and exports by countries, 1920.	Dec. 13	C. F. Deichman, consul general at Valparaiso.
Business and financial conditions of Chile, for period ending June 30, 1921.....	Dec. 15	Dayle C. McDonough.
Market for cereals.....	Dec. 28	Homer Brett, consul at Iquique.
Market for scientific apparatus and laboratory supplies.....	Dec. 30	B. C. Matthews.
COLOMBIA.		
Reports on commerce and industries for February, March, April, and May, 1921.....	Dec. 12	E. C. Soule, consul at Cartagena.
German steamship line to begin service in December.....	Dec. 13	Do.
June report on commerce and industries.....	Dec. 15	Do.
Hand pumps used in Colombia.....	Dec. 19	Leroy R. Sawyer, consul at Santa Marta.
Educational courses in schools.....	Dec. 30	Edmund B. Montgomery, vice consul at Barranquilla.
Installation of modern telephone system in Barranquilla.....	Dec. 31	Do.
1922.		
Proposal to establish a State or national bank of Colombia.....	Jan. 18	E. C. Soule.
New hospital in Cartagena.....	Jan. 19	Do.
Projected law for the foundation of a bank in the city of Bogota.....	do.....	Edmund B. Montgomery.
Commerce and industries of Barranquilla, 11 months of 1921.....	Jan. 21	Do.
COSTA RICA.		
December report on commerce and industries.....	Jan. 17	Henry S. Waterman, consul at San Jose.
Municipal improvements in San Jose during 1921.....	Jan. 20	Do.

Reports received to February 25, 1922—Continued.

Subject.	Date.	Author.
CUBA.		
Immigration into Cuba.....	1922. Jan. 9	Carlton Baily Hurst, consul general at Havana.
Present and prospective building operations in Cienfuegos.....	Jan. 20	Frank Bohr, consul at Cienfuegos.
Fisheries and market for fish products.....	Jan. 24	Harold D. Clum, consul at Santiago de Cuba.
Public control of privately owned forest lands.....	Jan. 27	Carlton Baily Hurst.
DOMINICAN REPUBLIC.		
The market for rice.....	1921. Dec. 19	W. A. Bickers, consul at Puerto Plata.
Mineral deposits and industries.....	Dec. 23	Do.
Domestication of American corporation and formation of local corporations in the Republic..	Dec. 24	Geo. A. Makinson, vice consul in charge, Santo Domingo City.
Economic conditions.....	1922. Jan. 18	W. A. Bickers.
Tobacco crop.....	do.	Do.
ECUADOR.		
December report on commerce and industries.....	Jan. 13	Frederic W. Goding, consul general at Guayaquil.
GUATEMALA.		
December report on commerce and industries.....	Jan. 31	Arthur C. Frost, consul at Guatemala City.
HAITI.		
Report on market for manufactured rubber.....	do.	Robert Dudley Longyear, vice consul at Port-au-Prince.
HONDURAS.		
Highway construction.....	Jan. 25	Albert H. Gerberich, vice consul at Puerta Cortes.
Formation and operation of corporations and the operation of foreign corporations in Honduras.	Feb. 2	Alexander K. Sloan, consul at Ceiba.
MEXICO.		
The retail toy trade in district.....	Jan. 13	Lee R. Blohm, consul at Aguascalientes.
Population of State of Jalisco and of the principal towns.....	Jan. 18	O. J. McConnico, consul at Guadalajara.
Hints to traveling salesmen entering the State of Chihuahua.....	Jan. 30	John W. Dye, consul at Ciudad Juarez.
The public schools of Ciudad Juarez.....	Feb. 3	Do.
Lettuce shipments from Mexicali district.....	Feb. 10	Walter F. Boyle, consul at Mexicali.
Road construction promised in Sonora.....	Feb. 11	Francis J. Dyer, consul at Nogales.
PANAMA.		
New publication in Panama City, daily, English and Spanish sections, The Daily News, and El Diario Nacional.	Jan. 18	George Orr, consul at Panama City.
Census of the Republic of Panama.....	Jan. 24	Do.
PERU.		
Agricultural census of Provinces of Lima and Callao.....	1921. Dec. 27	Claude E. Guyant, consul in charge, Lima and Callao.
SALVADOR.		
The sale of cement.....	Dec. 28	Lynn W. Franklin, vice consul at San Salvador.
Contract for lighting San Pedro Nonualco.....	Dec. 29	Do.
Import duties collected at customhouses of El Salvador from 1916 to 1920.	1922. Jan. 11	Do.
Annual report on commerce and industries for 1920 (exports)....	Jan. 12	Do.
URUGUAY.		
Proposed purchase by Uruguayan Government of Montevideo waterworks.	Jan. 16	David J. D. Myers, consul at Montevideo.
VENEZUELA.		
November report on commerce and industries.....	1921. Dec. 27	S. J. Fletcher, vice consul at La Guaira.
Commerce between the port of New Orleans and Venezuelan ports.....	do.	Do.
December report on commerce and industries.....	1922. Jan. 16	Do.

BOOK NOTES

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NOVEMBER, 1921.

[Continued from March.]

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[Not heretofore listed.]

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BOLIVIA.

- Adelante. Sucre, Colegio Nacional Junin. Monthly. (Año 3, No. 19, July, 1919.)
- La Voz del Pueblo. Trinidad, Beni. Weekly. (Año 6, No. 4, June 29, 1921.)
Órgano del Partido Republicano.)

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- Boletim Odontologico da Associação Central Brasileira de Cirurgioes-Dentista. Rio de Janeiro, Avenida Rio Branco 142. Quarterly. (Anno 9, No. 29, March, 1921.)
- Brazil—The Land of Opportunity. New York, 44 Whitehall Street. Monthly. (Vol. 1, No. 1, July, 1921.) (House organ of Companhia Commercial e Maritima. Agents Companhia de Navegação Lloyd Brasileira.)
- Diario Oficial. (Estado de Alagoas) Maceio. Daily. (Anno 10, No. 2682, Sept. 16, 1921.)
- O Triangulo Azul. Rio de Janeiro, Larga da Carioca 11, 2a and. Monthly. (Anno 1, No. 7, August 31, 1921.) (Boletim mensal da Associação Christa Feminina.)

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 1921.)
 Revista de la Cámara de Comercio de Barranquilla. Monthly. (Año 4, No. 44,
 September 1, 1921.)
 Unión Cafetera Colombiana. Medellín, Calle de Maturín 67-71. Semi-Monthly.
 (No. 10, June 1, 1921.)

COSTA RICA.

- Boletín Postal. San José. Dirección General de Correos. Monthly. (Año 1, No. 3,
 August, 1921.)
 Diario de Costa Rica. San José. Daily. (Año 2, No. 634, August 13, 1921.)
 Eco de Alajuela, Alajuela. (Tomo 1, No. 1, November 1, 1921.)
 La Escuela Costarricense. San José, Apartado 455. Semi-Monthly. (Año 1, No. 1,
 June 1, 1921.)
 Mercurio. San José, 3a Avenida Este. Semi-Monthly. (No. 4, August 30, 1921.)
 La Tribuna. San José. Daily. (Año 2, No. 406, August, 23, 1921.)

CUBA.

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 El Triunfo. Habana, Virtudes 86. Daily. (Año 16, No. 258, Oct. 28, 1921.)

ECUADOR.

- Cultura. Guayaquil. Weekly. (Año 1, No. 5, Sept. 17, 1921.)
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 Cosmos. San Salvador. Monthly. (Año 1, No. 3, June, 1921.)



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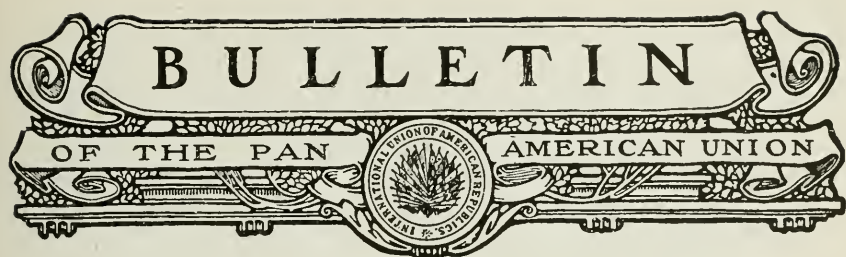
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President of the Republic of the United States of Brazil.



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NO. 5

THE ACHIEVEMENTS OF A CENTURY OF BRAZILIAN INDEPENDENCE

By LANGWORTHY MARCHANT,

Pan American Union Staff.

LOOKING backward over the first century of Brazilian independence, we find that the opening scene is set on a stage that had been prepared by the hand of destiny 13 years before. I will therefore crave the reader's indulgence to dwell for a few brief moments on the reign of Dom John, first in his character of Prince Regent, from his arrival in 1808 to the proclamation of the new Kingdom of Brazil in 1815 and thereafter as King John VI, down to the date of his departure in 1821.

It is permissible to suppose that Prince John intended to fix the seat of his government definitely in Brazil, and that his return to Portugal, resulting as it did from unforeseen circumstances, was a complete reversal of his original plan.

If Dom John had remained in Brazil, naturally there would have been no date of independence to commemorate other than that of his landing in Rio de Janeiro, March 7, 1808, or else that of the creation of the Kingdom of Brazil, December 16, 1815, for by the events connected with these dates Brazil was suddenly lifted out of the condition of a dependent colony to become the chief unit of the Portuguese empire. It was King John's return to Portugal that caused a break in the orderly course of events, and made it necessary

for the Brazilians to proclaim their separation from Portugal and assert their national independence.

When Dom John came over, he brought with him a great fleet laden with the most valuable treasures of the realm—a necessary precaution, in view of the circumstance which determined his migration—the imminence of invasion by the armies of Napoleon. Among these treasures were precious collections of works of art—paintings,



DOM JOHN VI, KING OF PORTUGAL, BRAZIL AND
ALGARVES.

sculpture, and his own royal library. All these things he used as the basis of civic and cultural institutions which he proceeded to establish in the colony.

With the paintings and sculpture he founded the Academy of Fine Arts, which has evolved in a marvelous manner through the course of the century, increasing in importance and utility until it is now the alma mater of many noted artists—painters, sculptors, and architects—not a few of whom are at this very time working in



THE CRY OF YPIRANGA.

The Prince Regent Dom Pedro is seen in the center, with drawn sword, and shouting the historic words "Independence or death."

feverish haste, day and night, erecting and decorating the wonder city of the Exposition which is to commemorate the dawn of the century of independence.

With his own private collection Dom John established a museum of natural history, which has since become the National Museum and is now installed in what was once his own royal residence of São Christovão.

Another creation of his was the Botanical Garden, in which, with his own hand he planted the royal palm from which are descended all the other trees of its species in Brazil. The mother palm is still growing where King John planted it, inclosed within a railing and marked with an inscription.

When Dom John arrived in Brazil there was a lack of higher institutions of learning. It had been the policy of the Portuguese Government to encourage the sons of wealthy and influential colonials to receive their education at the University of Coimbra, in Portugal, by which means it was thought they would acquire a new lease of loyalty, together with the culture of the mother country. Consequently there had been few establishments of higher education except those maintained by the Jesuit fathers, and even these had disappeared with the expulsion of the Jesuits under Pombal in 1759. Dom John founded schools of higher education in a number of cities, the Medical Schools of Rio de Janeiro and Bahia; the Engineering School of Rio de Janeiro; the law schools of São Paulo and Recife; in addition to a large number of secondary schools and academies. Dom John also established a printing house under the name of "Imprensa Regia," or "King's Printing House," for the special purpose of printing Government matter. This establishment has grown since the days of King John, and its name has been changed to that of "Imprensa Nacional," or "National Printing House," but it continues to perform its original function of printing Government matter, which includes the *Diario Official*, a daily publication in which are recorded all the acts of all the branches of the Federal Government.

The migration of Dom John was the occasion of a complete upheaval in the economic conditions of Brazil. With the exception of the interval of the Pombal administration, the foreign activities of the colonials were limited to dealing with the mother country, ships of other nations not being allowed in the Brazilian ports. The internal life of the colony was cramped and oppressed. No manufactures were permitted except those of the coarsest and most necessary articles. Agriculture was limited in scope to the growing of crops for home consumption or for export to Portugal, to be consumed there or to form the materials of trade for Portuguese merchants.

The only industries of real value, because of their importance and the revenue which they brought into the colony, were the extraction of gold and precious stones, and the manufacture of sugar, and both these were so heavily taxed as to be often ruinous to those engaged in them.

With the arrival of Dom John all this was changed. The ports were opened to the ships of all friendly nations. Not only was the ban lifted from all industrial pursuits, but the industries were fostered in every possible manner. Seeds and plants were brought from the Portuguese possessions in Asia and Africa and acclimated in the botanical garden in order to enrich the agricultural resources of the new Kingdom. Among these was China tea, which King John endeavored to make a regular source of revenue. His experiments proved successful, and China tea was bidding fair to become a standard Brazilian product when its career was suddenly cut short by the appearance of its more powerful rival, coffee.

Had King John VI been as wise in political affairs as in matters of intellectual and material progress, had he not failed to understand that the Brazilian national spirit was a reality with which he must reckon, however distasteful to his medieval ideas of the divine right of kings, it is more than probable that he would never have left Brazil, notwithstanding the loud clamors of his Portuguese subjects for his immediate return to his Old World Kingdom. Realizing, however, that his high-handed policy had completely destroyed his popularity in Brazil, King John decided to embark for Portugal, which he did on the 21st of April, 1821.

His departure was as fortunate for Brazil as had been his coming. Dom Pedro, his son, whom he left in Brazil, as regent, became the champion of the Brazilian cause in opposition to the Portuguese reactionaries, who desired to reduce the new Kingdom to its old colonial status. The home Government demanded his return. A committee of Brazilian deputies waited upon Dom Pedro, requesting him in the name of the people to defy the order and remain. His answer has become historic: "Since it is for the good of all and the general happiness of the nation, tell the people that I will remain."

A few months after this event Dom Pedro made a journey to Minas and São Paulo. Not far from the capital of the latter Province he and his escort were met on the banks of the small stream Ypiranga by a body of functionaries bearing messages from the Portuguese court. A letter was delivered. As Dom Pedro read it his countenance flushed with anger. Suddenly turning his horse to face his attendants, he tore the Portuguese insignia from his hat and breast, drew his sword, and shouted the historic words, "Independence or death!"

The peculiar significance of the cry of Ypiranga is not so much that it facilitated the achieving of independence, which would have ensued in the natural course of events in the very near future, but that the establishment of the Empire contributed effectively to hasten the consolidation of the national spirit and strengthen the bonds of union between widely distant parts of the country. But for this event it may be conjectured with a high degree of certainty that the fate of Brazil would have resembled that of the vast republic which had been the fond dream of Bolívar.

Thus, the first great achievement of the century of independence was the achievement of independence itself. Attempts at reaction on the part of the Portuguese garrison and fleet with their sympathizers had been crushed. The Brazilian fleet under Lord Cochrane, that extraordinary champion of South American independence, had driven the Portuguese men-of-war from the Brazilian coast, whence he pursued them into the very mouth of the Tagus.

The age-old struggle for independence was over. The blood of the multitude of Brazilian patriots who had died for their country on the field and on the scaffold—the heroes of Pernambuco; the Beckmans and their comrades in Maranhão; and the glorious protomartyr of the Republic, Joaquim José da Silva Xavier, the Tiradentes; and all the brilliant galaxy of his inspired companions had at last borne generous fruit, and Brazil was free.

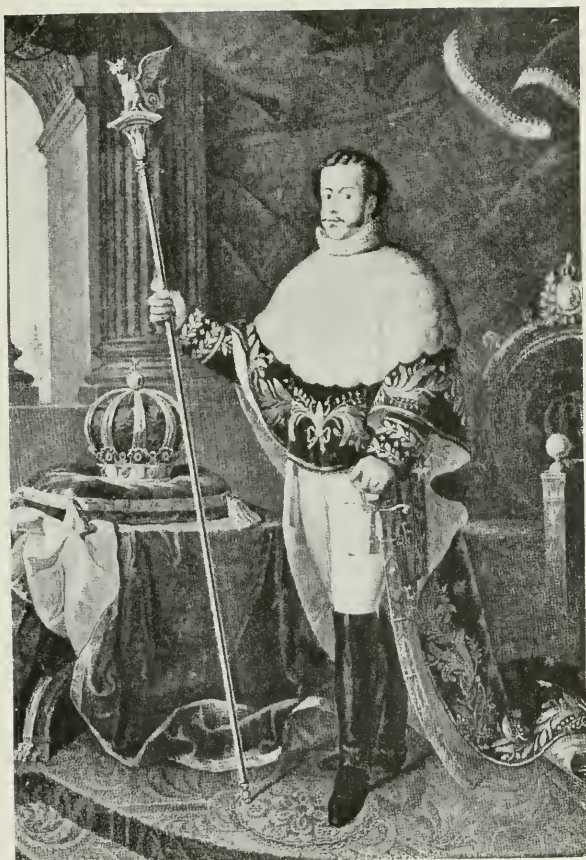
Limitations of space forbid more than a glance at the most prominent of the political events of the first reign, the bare narration of which would fill many volumes.

First in order is the fusion of all parties into one in support of the newly installed head of the nation, Dom Pedro I, Constitutional Emperor and Perpetual Defender of Brazil; then follows the convocation of the Constituent Assembly for the purpose of establishing a constitution; later, the violent dissolution of the same assembly by the Emperor, because it proposed to curtail his privileges and establish a virtual republic; then in swift succession the arrest and banishment of the parliamentary leaders, among them the illustrious José Bonifácio de Andrada e Silva, who goes down in history with the title of "Patriarch of the Independence"; the promulgation of the constitution of the Empire by Dom Pedro Primeiro—a most liberal document, notwithstanding the extraordinary circumstances in which it was promulgated; the republican revolution of 1824 in Pernambuco, which was repressed by Dom Pedro in a way which raised up against him the deep resentment of the Brazilians and led to his abdication April 7, 1831.

A curious incident in connection with the abdication of Dom Pedro Primeiro was his appointment of José Bonifácio, the exiled Patriarch of the Independence, as the guardian and tutor of his son, Dom

Pedro Segundo, whom he intrusted at the age of 5, with his baby sisters, to the loving care of the subjects with whom he had quarreled.

Dom Pedro Segundo was proclaimed Emperor of Brazil by a joint committee of Senators and Deputies amid the joyous shouts of the whole population. A regency of three members was constituted, and José Bonifacio was invited to assume the personal guardianship of the Emperor.



DOM PEDRO PRIMEIRO, CONSTITUTIONAL EMPEROR AND PERPETUAL DEFENDER OF BRAZIL—SURNAMED THE FOUNDER.

Dom Pedro Primeiro left Brazil in a state of confusion. Riots, revolts and serious revolutions broke out in all parts of the country, a condition of affairs with which the regency was unable to cope and which continued to exist for several years. In 1834 the Additional Act, or constitutional amendment, was adopted, and the triple regency was replaced by a single regent, Father Diogo A. Feijó being chosen for the post.

The various reforms embraced by the Additional Act were exceedingly appropriate and useful, but they did not prove successful in the reestablishment of order, which was the chief reason for the enactment of the new instrument. Revolutions continued to rage in several Provinces, notably in Rio Grande do Sul, which constituted itself into an independent country, styled "Republic of Rio Grande,"



JOSE BONIFACIO DE ANDRADA E SILVA, PATRIARCH
OF THE INDEPENDENCE.

under the leadership of Bento Gonçalves da Silva. It is worthy of remark that it was with the republican army of Rio Grande that the celebrated Italian liberator Giuseppe Garibaldi began his military career.

All thinking people now began to look toward Dom Pedro Segundo. He was but a child, only 14 years old, but his education had been directed by wise and liberal men, and it was thought that sympathy

for the boy Emperor would help to draw the attention of conflicting parties from their factional struggles to one common point of interest.

Dom Pedro, on being asked if he desired to be declared of age and to assume the personal direction of public affairs, replied: "I do, and at once." That this reply was no idle whim, and that he was capable of rising to the occasion was proved in the sequence.

It was the good fortune of this prince to be surrounded by wise and able counselors and to have in his service that great patriot and humanitarian, Gen. Lima e Silva, Baron and afterwards Duke of Caxias.

Caxias went from one revolted Province to another announcing to all parties and persons the Emperor's proclamation of unconditional amnesty, and inviting all to join him in the patriotic task of upbuilding the national welfare. He was successful everywhere except in Rio Grande, which, for a time, spurned the imperial offer, preferring to continue her nine years' struggle for independence. In 1845, however, Caxias was able to announce that peace had been made on terms honorable to all, and that Rio Grande do Sul was proud to take once more her honored place in the national constellation and again assume her ancient heroic title of "Shield of Brazil."

During the period 1850-1852, Brazil took part in the war against the tyrant of Buenos Aires, Juan Manuel Rosas, who after a struggle of nine years finally gave up the contest and fled to Europe.

Brazil's next foreign war was against the dictator of Paraguay, Francisco Solano López. In this struggle Brazil was allied with the Republics of Argentina and Uruguay. It was a cruel war, in which all the participants suffered heavily—Paraguay more than the others, owing to the desperate resistance of the dictator. Among the famous Brazilian commanders in this war were the Prince Imperial Marshal Count d'Eu, Generals Ozorio, Polydoro, Porto Alegre, Caxias, Argollo, and Admirals Barroso and Tamandaré. Fortunately, time has healed the wounds of that bitter struggle, and all the nations which participated in the conflict are now united in the bonds of loyal and sincere friendship.

The next outstanding event in the political evolution of Brazil's century of independence is the abolition of slavery, by two successive steps, under the auspices of Dona Isabel, daughter of Dom Pedro Segundo, when serving as regent of the Empire. The first decree was signed on September 28, 1871. By this decree slave mothers bore only free children. The prime minister who submitted the bill to Parliament and secured its adoption was the celebrated Viscount of Rio Branco, one of Brazil's most illustrious statesmen and father of that other illustrious statesman, the Baron of Rio Branco, who gained immortal fame by his settlement of the boundary questions of Brazil. The final abolition of slavery was effected by Dona Isabel on May 13,

1888, with the aid of that famous statesman Councillor João Alfredo Corrêa de Oliveira.

From the rapid unfolding of the events immediately preceding the revolution of 1889, one not familiar with the political life of Brazil might be led to infer that either the republican spirit came into



From an engraving by M. L. Brown.

DOM PEDRO SEGUNDO, THE MAGNANIMOUS.

Dom Pedro Segundo was the son of Dom Pedro Primeiro and his consort, the Empress Dona Leopoldina, Archduchess of Austria. On his father's side he was a Bragança and a Bourbon, and through his mother a Hapsburg. He was born in Rio de Janeiro December 2, 1825; succeeded to the throne April 7, 1831; was declared of age at 14 and crowned at 16; deposed November 15, 1889, by reason of the Proclamation of the Republic; died in Paris 1892. It was said of Dom Pedro Segundo that he never caused a bitter tear to be shed.

existence very suddenly, or that it had been stifled and repressed under the Empire. Both inferences would be wrong. Republican ideas had flourished in Brazil during at least two centuries of colonial rule and had given abundant proof of their existence through many violent and bloody revolutions. Indeed, it would be impossible within the limits of this brief sketch even to enumerate the political

upheavals which occurred in every part of Brazil with the object of setting up some sort of popular government.

Exactly 100 years before the advent of the Republic, that is, in the latter part of the year 1789, the *Inconfidencia Mineira* had well nigh become the occasion of the separation of at least a part of Brazil from the Portuguese Crown. The movement failed, but the



From an engraving by M. L. Brown.

DONA THEREZA CHRISTINA.

Dona Thereza, daughter of Francis I, King of the two Sicilies, was born March 14, 1822. At the age of 21 she was married by proxy in Naples to Dom Pedro Segundo, and the ceremony was repeated on her arrival in Rio September 4, 1843. She was exiled with her husband November 16, 1889, and died shortly afterwards in Lisbon. From her active leadership in good works of every description she merited the surname of "The Mother of the Brazilians."

terror which it inspired in the exponents of absolutism is attested by the atrocity of the punishments which were meted out to the Tiradentes and his companions.

Brazil was intensely republican when Dom John came over. It was the vigor of the republican spirit that caused him to return to Portugal in 1821, and but for the circumstance that Prince Dom Pedro

lent the prestige of royalty to the national cause, Brazil would have soon become independent, as a republic. His intervention, however, was useful and beneficial because it concentrated the national energies upon one single object, thus ending factional strife and division.

All these things were weighed in the balance by the Brazilians, and it was at their earnest solicitation that Dom Pedro consented to disobey the mandate of the Portuguese court ordering his immediate return to Portugal. Their desire was to save the national unity, and the method which presented itself as best suited for the purpose was to secure the cooperation of the Prince Regent; but they soon made it plain to their new sovereign that under the forms of monarchy they expected democratic realities. But Dom Pedro Primeiro could not understand this. Here was a prince whose life was divided between obedience to two opposite principles. He was a democrat by natural impulse and the effect of his democratic surroundings; and yet, influenced by the ancient traditions of his race, he was both willful and autocratic. The independent attitude of the Brazilians pleased him in so far as it accorded with his own supremacy; beyond that it shocked him as savoring of demagoguery and ingratitude. "I will do everything for the people, but nothing through the people," he said, and rather than yield to their will he made his graceful, but nevertheless compulsory, withdrawal.

In the reign of Dom Pedro Segundo community independence and personal freedom and safety were guaranteed realities to the point that under these heads the most extreme republican could find nothing to desire which had not already been conceded. These great benefits, coupled with the prevalence of order throughout the Empire and the constant growth of the spirit of national unity, were sufficient to outweigh any objections to the then existing institutions on the ground of concentration of power in the capital.

As soon as the Empire had completed its task and the spiritual bonds of one indivisible nationality had become ingrained for all time in the mind of all Brazilians, it behooved the old institutions to give way and yield their place to a new order of things better able to satisfy the aspirations of progress in all its multiple aspects. Then, and not till then, was it possible to establish that wonderful Republic of 21 autonomous States, each pressing vigorously forward in the race of modern achievement, and yet all united in one common and perpetual sisterhood.

The first regular Republican organization was formed in 1870. A document was prepared called the Republican Manifest, which all who desired the adoption of the republican form of government were invited to sign. There was nothing secret about it, and the document was signed by quite a number of men of position and influence. The party continued in an embryonic condition for at least a decade,

after which the political issues of the period became entangled with the question of the abolition of slavery, to the great advantage of the republicans.



From an old portrait.

DONA ISABEL, PRINCESS IMPERIAL, THE REDEEMER.

Dona Isabel, daughter of Dom Pedro Segundo and his consort Dona Thereza Christina, was born in Rio de Janeiro July 29, 1846. On October 15, 1864, she was married to Prince Gaston d'Orléans, a grandson of King Louis Philippe of France. She and her husband and children were included in the decree of banishment on the Proclamation of the Republic. She died in Paris November 14, 1921. The decree of banishment of the imperial family has been repealed, and the Brazilian Government has ordered the transfer of the remains of its various members to Rio de Janeiro.

The most active nucleus of the republican party was the Province of São Paulo, particularly in Campinas and Piracicaba, from both of which it soon succeeded in sending representatives to the Imperial Parliament. These two representatives were Manoel Ferraz

de Campos Salles and Prudente de Moraes Barros, each of whom rose in the course of events to the Presidency of the Republic. Other representatives were sent by the party from different sections of the Empire. Permanent committees were formed to promote the expansion of the organization, newspapers were established, and lecturers were commissioned to tour the country. It was about this time that Quintino Bocayuva, the prince of Brazilian journalists, as he was styled, established the newspaper *O Paiz* to fight the battles of the new party.

After the abolition of slavery on May 13, 1888, the old Conservative Party began to disintegrate very rapidly, its members going over to the Republicans. The Liberals made an heroic effort to sustain the shock alone, but the impetus already gained by the radicals, together with the combination of extrapolitical elements and circumstances, precipitated events beyond the control of men or parties.

Such a circumstance was the participation in the republican movement by the Positivistic school of philosophy, then at the zenith of its power in Brazil, which included among its members some of the most eminent scientists and men of letters. Gen. Benjamin Constant Botelho de Magalhães, the chief exponent of the Positivistic doctrine, was president of the military college. Under his patronage a plan was worked out among the higher officers of the army, with the assistance of the chiefs of the Republican Party, for the deposition of the dynasty and the proclamation of the Republic. The revolution declared itself on the 15th of November, 1889, and a provisional government was organized under the Presidency of Gen. Deodoro da Fonseca.

The last imperial cabinet, headed by the illustrious Viscount of Ouro Preto, finding itself powerless to act, simply ceased to exist with the arrest of its members. The imperial family were banished.

The inevitable note of sadness in the passage from the Empire to the Republic was the pain which it inflicted on the devoted Emperor and his family. Their misfortunes were keenly felt by all, including those who by the force of circumstances were called to be the executors of the stern commands of destiny.

Pedro Segundo is in the true sense of the word the child of the Brazilian nation. His mother, the Empress Leopoldina, died when he was a year old. When his father abdicated in 1831, taking with him his second wife, the Empress Dona Amelia, and one of his daughters, the infant Queen of Portugal, he left his other daughters and Dom Pedro Segundo, then 5 years of age, entirely to the care of the Brazilian people, as already stated. By them he was reared and educated as they thought best, in the principles of liberalism and democracy. In his bringing up they gave him the best they

had, and his teachers were men of deep wisdom and exalted patriotism. In due course the cherished child became the inspired leader. All he had learned from those about him was assimilated and matured in his own great mind, and he never failed to show himself worthy of the loving trust that had been placed in him. It was his Mosaic destiny in the early part of his personal reign to save his country from being wrecked on the rocks of discord and the separation of the



From a painting by Eduardo de Sá.

GENERAL BENJAMIN CONSTANT BOTELHO DE MAGALHÃES, THE FOUNDER OF THE REPUBLIC.

Provinces, and by the power of his own benign spirit to consolidate forever the spiritual union which is the soul of Brazilian nationality. He led his country to victory with honor in the two foreign wars in which he was forced to engage. He inaugurated an era of intellec-

tual and material progress which filled his whole reign, and constituted a solid foundation for the easy and peaceful transition from the Empire to the Republic. For all these reasons it is impossible to honor the memory of the second Emperor without heaping honor on the Brazilian people whom he so well symbolizes. Neither is it possible to honor fully the memory of Pedro Segundo without honoring also that of his glorious daughter Isabel the Redeemer, who gained the heights of immortal fame in the inspiration of his example.

Of the 33 years of independence under the Republic, 10 were spent in adjustment to the new conditions. In some of those years there was fear and doubt and divided counsel. It was in those years that Marshal Deodoro da Fonseca, Marshal Floriano Peixoto, Admiral Saldanha da Gama, Admiral Custodio de Mello, President Prudente de Moraes and a host of other patriots rose to prominence and played important rôles in the consolidation of the new institutions. By the end of the nineteenth century the crucial test was over, and the new Brazil, covered with the glories of a noble past, entered hopefully and courageously on the conquest of the twentieth century under the inspiring motto of "Order and progress" inscribed on the banner of the Republic Triumphant.

Let us now turn our attention for a few brief moments to the cultural achievements of the century. It will be readily conceded that in point of time the major part of these belong to the Empire, and that in the matter of quality and quantity the Empire's share lies chiefly within that part of the second reign which extends from the coming of age of Dom Pedro Segundo to the proclamation of the Republic in 1889. Brazil during those years experienced in every aspect of intellectual progress a greater impulse than ever before. The older colleges broadened their scope, and there was a large increase in the number of secondary schools. At the same time a very complete system of public schools carried the benefits of primary instruction to every town and village. Dom Pedro, himself an eminent scholar, took a keen interest in the diffusion of knowledge. The Dom Pedro Segundo College, which he founded, stands to this day as a model institution of its class.

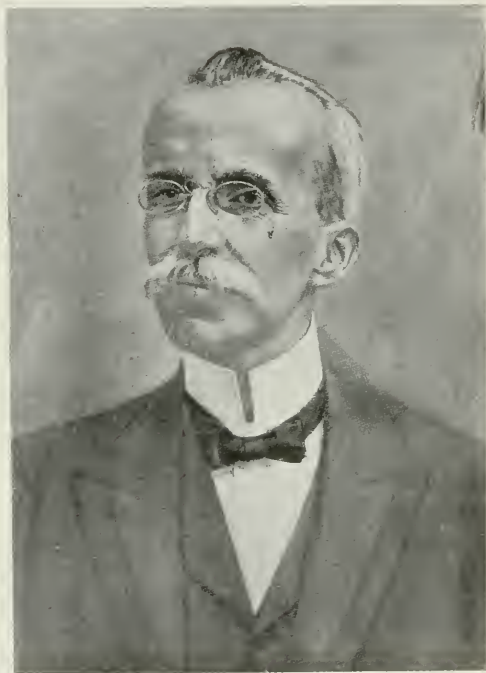
During this period there flourished a brilliant galaxy of intellectuals—painters, sculptors, musicians, poets, novelists, critics, historians, scientists—including an illustrious school of statesmen who will be forever a glory to Brazil.

The cultural achievements of the Republic have been truly prodigious, reaching far beyond the fondest dreams of its founders. The erection of the Provinces into autonomous States has created a spirit of friendly emulation in cultural matters as in all else, with the result that the public-school systems of some of them have attained such a high degree of development that they are cited as models

worthy of imitation by older peoples. In short, Brazil as we see her to-day under the Republic is marching proudly forward in the vanguard of the nations of the Western Hemisphere and of the world.

It was my purpose to mention a few among the representative exponents of the different classes of cultural expression, but I have been forced to desist owing to the limitations of space. And yet I can not refrain from naming some of those whose works are ever recurring symbols in the forward movement of the national life—

poets like Gonçalves Dias and Olavo Bilac; novelists like José de Alencar and Machado de Assiz; musicians like Carlos Gomes and Leopoldo Miguez; painters like Pedro Americo and Antonio Parreiras; sculptors like Rodolpho Bernardelli and Eduardo de Sá; architects like Mestre Valentim and Heitor de Mello; statesmen like José Bonifacio and the two Rio Brancos; diplomats like Joaquim Nabuco and Cochrane de Alencar; jurists like Ruy Barbosa and Clovis Bevilacqua; engineers like Christiano Ottoni and Paulo de Frontin; geographers and explorers like Couto de Magalhães and



COUNCILLOR RUY BARBOSA.

Candido Rondon; publicists like Sylvio Romero and Oliveira Lima; historians like Capistrano de Abreu and Rocha Pombo; hygienists like Carlos Chagas and Belisario Penna; journalists like Evaristo da Veiga, Quintino Bocayuva and José Carlos Rodrigues.

In Rio de Janeiro alone intellectual culture finds a home in institutions such as the Brazilian Academy of Letters; the National Academy of Medicine; the Brazilian Society of Fine Arts; the Geographic Society of Rio de Janeiro; the Society of Medicine and Surgery; the National Society of Agriculture; and the Association of Brazilian Lawyers.

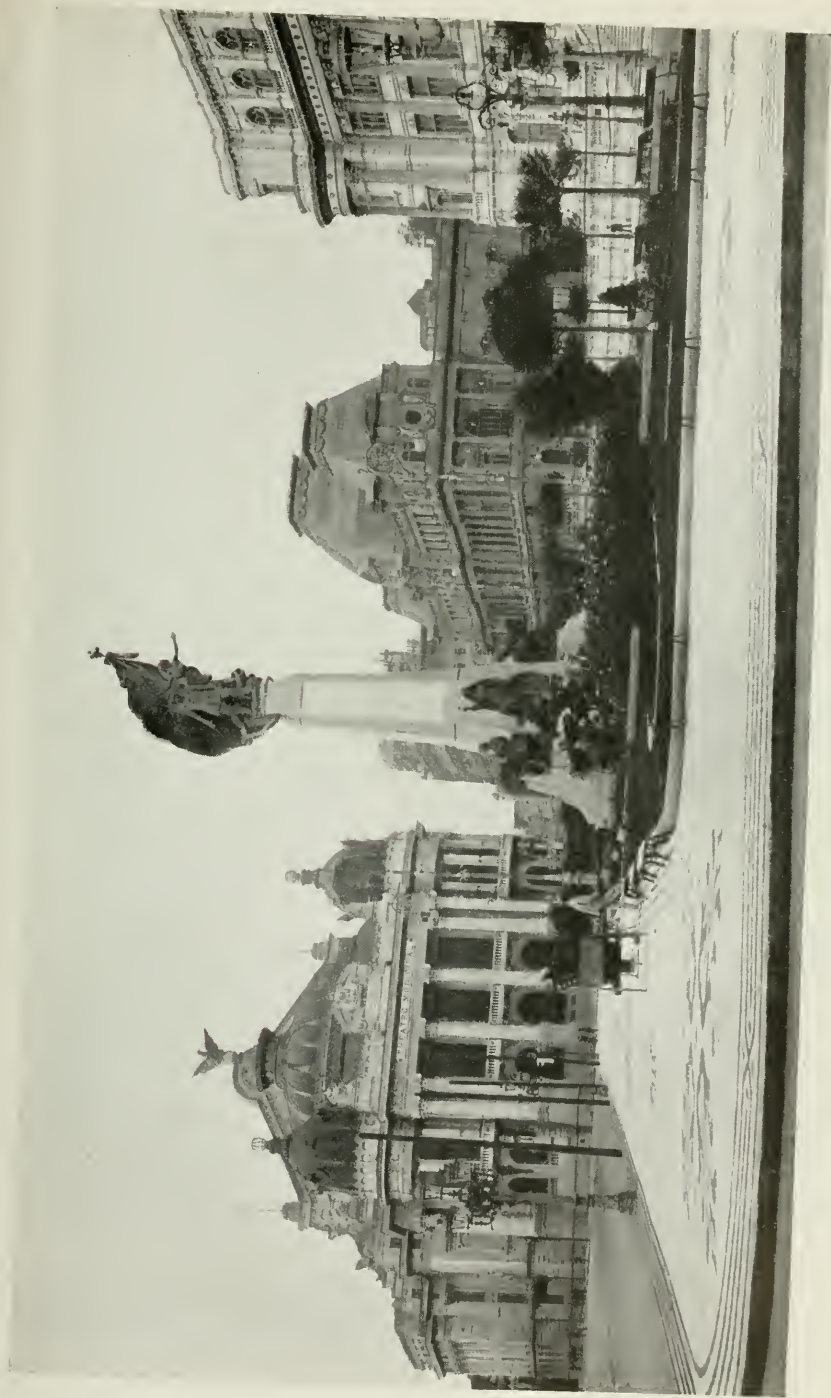
A mere fleeting glance is all that can be bestowed upon that great world of surging activity which is the economical progress of Brazil

during the century of independence. I shall therefore confine myself to the enumeration of a few, only, of the most notable events which constitute the landmarks in the different branches of economic progress.

First in order comes the establishment of the coffee industry in the first quarter of the nineteenth century, an event which has led in modern times to the meteoric rise of the State of São Paulo. Then comes the building of the first railway, the Mauá, running from the bay of Rio de Janeiro to the foot of the Petropolis Hills and, later, the inauguration of the Dom Pedro Segundo Railway, now the Central Railway of Brazil and in its day the masterpiece of Brazilian engineering; the opening up of steam navigation on the internal waterways of the country; and the opening up of the Amazon River to the merchant ships of the world. Next in order, we have the prodigious economic development which followed the proclamation of the Republic—the docks of Santos; the port works of Rio de Janeiro, Pará, Rio Grande do Sul, and other cities; the complete transformation of Rio de Janeiro under Rodrigues Alves, Lauro Muller and Pereira Passos into the city of light and magic enchantment which it now is; the creation of the city of Bello Horizonte, the elegant capital of Minas Geraes, which arose from nothing to a most beautiful center of population and culture in half a dozen years; the reorganization of the Ministry of Agriculture, Industry, and Commerce, and the vast amount of constructive work which it has realized under the administration of men like Candido Rodrigues, Rodolpho Miranda, Pedro de Toledo, Pandiá Calogeras, and their able and efficient successors; the extension of the railway systems and the great development of coastwise and transoceanic navigation; the enormous influx of immigration; the opening up of the wilderness of the interior; the sanitation and embellishment of towns and cities in every State in the Federation; the vast number of agricultural and industrial events which make up the progress of our day, among which, last but not least, are the important improvements conceived and carried into effect by the present administration.

Among scientific events bearing on the progress and welfare of the human race must be mentioned the conquest of the air by Alberto Santos Dumont with his invention of the dirigible balloon; the neutralization of ophidic poison by the Butantan Institute under Vital Brazil and his associates; and the elimination of yellow fever in Rio de Janeiro and other cities by Oswaldo Cruz.

The weight of Brazil's moral influence in the world's affairs is indicated by the fact that a Brazilian, Dr. Gastão da Cunha, was chosen to preside over the Council of the League of Nations at Geneva, while one of Brazil's most illustrious statesmen and jurists,



MARECHAL FLORIANO SQUARE, RIO DE JANEIRO.

Left: The Municipal Theater. Center: Floriano Peixoto Monument by Eduardo de Sá. Right: Front, the National Library, second plane, the National School of Fine Arts.



BRAZILIAN EMBASSY BUILDING IN WASHINGTON.

This stately and imposing edifice is situated at 1603 H Street on the northern side of Lafayette Square.

Senator Ruy Barbosa, is a member of the Permanent Court of International Justice sitting at The Hague.

Brazil joined the Allies in the Great War, in which she rendered signal service, chiefly through the cooperation of her Navy and the shipment to Europe of large quantities of food and other materials.

The dominant note of the present time is the splendid progress which is being realized in private enterprise under the intelligent guidance of the Federal and State Governments in every branch of economical activity.

In matters of culture and social progress the forward movement is equally remarkable. Education in every branch, and notably in university expansion and concatenation, has advanced very rapidly. Problems of hygiene, public health, and sanitation have not lagged behind, nor yet those of child welfare, all of which are being vigorously pushed by the increasing participation of Brazilian women in matters of public interest.

The problems which have confronted the legislative and executive branches of the Federal Government have been both varied and important, embracing questions of Brazil's external policy with regard to the adjustment of world conditions resulting from the Great War, and an immense variety of internal subjects of every imaginable character.

To President Epitacio Pessoa belongs the great privilege of closing the door of bronze and turning the golden key on the First Century of Brazilian Independence, in the midst of the unanimous acclamation of the world. At the same time he will enjoy the no less high privilege of opening wide that other door, leading to the transcendent realization of the destinies of Brazil in the century that is to follow. But the reflected glory which covers President Pessoa on this occasion will in no wise diminish the luster of the many and eminent services which constitute his own contribution to the general treasury of the national achievements.





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HIS EXCELLENCY DR. AUGUSTO COCHRANE DE ALENCAR

The Brazilian Ambassador to the United States.

Dr. Cochrane Alencar is a great-grandson of Lord Cochrane, the great champion of South American independence, and a son of José de Alencar, the celebrated Brazilian writer and author of the well-known novel—O Guarany.



SR. SAMUEL DE SOUSA LEÃO GRACIE,
First Secretary.



CAPT. HERACLITO DA GRAÇA ARANHA
Naval Attaché.



SR. AMERICO DE GALVÃO BUENO,
Second Secretary.



SR. JOAQUIM DE SOUSA LEÃO,
Second Secretary.



SR. SEBASTIÃO SAMPAIO,
Commercial Attaché.



COMMANDER GUILHERME RICKEN,
Assistant Naval Attaché.

THE STAFF OF THE BRAZILIAN EMBASSY AT WASHINGTON.

Photographs of Capt. Aranha, Sr. Bueno, Sr. Leão, Sr. Sampaio and Commander Ricken by Harris & Ewing-

THE BANDEIRANTES: THEIR DEEDS AND THEIR DESCENDANTS .. :: ..

By AMERICO DE GALVÃO BUENO,
Second Secretary, the Embassy of Brazil at Washington.

Alone the Sertanista agonizes, alone the captain dies—
The sweat of mortal anguish upon his forehead lies;
His tattered leathern jerkin reveals his laboring breast,
In suffocated cries, outbreathes his heart oppressed,—
Amidst the savage jungle, like some great fallen tree,
The Bandeirante lies, from quest forever free.

* * * * *

Die! but thou shalt live in the wide trails which thou has broken,
Thy name shall roll down the years in Guayeuhy's mighty ehant;
Die, Conquistador! But thy blood, as sap—an ever-living token—
Shall, mounting, rise, and in the spring's high verdant hour
Forever sing, pulsing between nest and flower.

Die! but each drop of sweat, each burning tear of thine
Shall quicken a newer life, and richly multiply;
Fruitful shall be thy fasts, each vigil a blessed sign
Of that day when the land shall be peopled.—this land where thou dost lie;
When under the kiss of the sun, abundant harvests shall spring,
When under the kiss of love, thy race shall burgeon and sing.

— Translation from the *Portuguese* of Olavo Bilac, "O Caçador de Esmeraldas."

IN THE history of colonial Brazil, which extends from the 22d of April, 1500, when Admiral Pedro Alvares Cabral discovered and took possession of the new land for the Portuguese Crown, to the 16th of December, 1815, when the colony was raised by royal charter to the rank of a kingdom along with Portugal and Algarves, there are two distinct phases of enormous political importance in the formation of the Brazilian nation.

But for the first of these phases, the new conquest would have fallen into the hands of other nations; but for the second, the Portuguese power in America would not have extended beyond a narrow strip of land lying along the Atlantic coast.

The first phase is featured by the possession of the seacoast region, by the struggle to end its occupation by foreigners, and by the definite expulsion of the latter.

Three preponderant elements concur in this phase: The white man, represented by the colonial and his native-born descendant; the indian, tamed and converted by the Jesuits; and the negro.

All these elements cluster around the royal authorities or operate on their own account. In addition to the elements just named, there is the Jesuit priest, whose heroic self-denial leads him to mingle fearlessly with the combatants, bearing the consolation of religion to the wounded and dying, and words of cheer to the soldier in the hour of defeat or in the havoc of battle.

All these different elements are united by another motive, in addition to one common interest in the defense of the country where they live, where they were born, or where they labor. This motive is the consciousness of a new fatherland, the sense of a national existence.

It may be supposed that the white colonial is moved to enter the struggle for selfish reasons, in order to prevent the threatened destruction of his labor and ambitions. The supposition may be true in part, but the fact remains that the chief cause that leads him to repel the invader is his love for the country and for his native-born children, who feel no love for the country of their forefathers which they never expect to see.

With regard to the indians, whether converted to Christianity by the Jesuit fathers or made captive by the colonials in their wars against the tribes, they are fascinated by the glamor of a civilization of which they were ignorant, but which has been revealed to them by the people from beyond the sea, and they prefer this new life to the uncertainties of a nomad existence in the wilderness.

If some of their masters are cruel, there are others who, not having lost all Christian feeling, treat their slaves with kindness. Sometimes we see an indian chief offering his daughter in marriage to a Portuguese; and these Indian maids, to quote the words of P. Vaz Caminha, in his report to the King on the voyage of Cabral, "are fair and very beautiful." From such unions spring the mamelukes, who prove the best auxiliaries of the colonials in their wars with savage tribes, and in their struggles with invaders from beyond the sea. As to the negro, a slave from his birth in the remote interior of Africa, sold there and brought to the shores of America to labor in the fields, in the mines, and in the cities, he finds less hardship in his new surroundings than in the hands of his original owners. And both these elements, the indian and the negro, give proofs of heroism not inferior to that of the white man.

The conflict was a double-featured one. On the one hand it was a continuous battle with the savage tribes; on the other, it was a series of defensive wars against the French, English, Dutch, and Spaniards, during the sixteenth, seventeenth, and eighteenth centuries.

But during that portion of these struggles which lies within the sixteenth century, the Portuguese dominion was confined to a narrow

strip along the seashore from the Gurupy River in Maranhão, to the south of the captaincy of São Vincente. It was at this point that the colonials had penetrated farthest into the interior, climbing the *Serra do Mar*, and occupying the plains of Piratininga. And while this epic struggle was going on, another was beginning.

It is the second epopee, the phase of the conquest of the *sertão*—of the unknown interior. It was necessary to advance, to penetrate into the heart of the new land regardless of the provisions of the treaty of Tordezilhas of 1494, by which it had been established that the line of demarcation from pole to pole should run as far as 370 leagues to the west of Cape Verde for the Portuguese possessions, while the Spanish conquests were adjudged to the east of this line.

The interior was an unknown wilderness. Why should it not contain El Dorado, that legendary dream of a land whose trees were purest gold and whose soil was filled with precious metals and sparkling gems?

Orellana, the companion of Pizarro, had reached this region in 1540, from Guayaquil, by way of Maranhão, where he was attacked by indian warriors, afterwards called Amazonas, because of their fancied resemblance to women.

But the dream is still unrealized. Orellana is followed by others and still others. Still the wilderness remains tenanted with wild beasts and savage indians, crossed by deep rivers, and covered with forests through whose dense foliage the sunbeams never pierce. But the wilderness must be opened. Naturally the Portuguese authorities are anxious to extend the dominions of the King, but how are they to do this without sufficient means in the way of men and money? They could, of course, promise official recognition to those who are willing to brave the dangers of the forest; but that is all. Up to that time every attempt had failed; nothing at all had been achieved. Such were the *entradas*—that is, expeditions into the forest wilderness which occurred in the course of the sixteenth century, each starting at some favorable point along the seashore. Some of these *entradas* were sent out by the heads of the Captaincies, while others were organized by private enterprise. They had a twofold end in view: to capture indians and to discover mines of precious stones and metals.

They do not, however, always succeed in the first object, for the Indian is a warrior by nature, who possesses better fighting elements than the white man, including a thorough knowledge of the forest in which he dwells; and as to the second, their returns are very meager indeed, consisting of a few insignificant samples of gold in pieces of rock.

But of all those who start out on these expeditions how many are lost in the maze of the forest or fall a prey to the ferocity of cannibal tribes? Some entradas travel many leagues, and then return bringing with them captives taken in battle and many stories of marvelous mines, so that others are seized with the desire to follow the trail of those who have gone before. But, cruel disappointment, the exuberant foliage and creepers have closed up again and the trail is lost forever. This is the common fate of the first entradas.

Next comes the *bandeira* with the same purposes as the entrada—that is, to bring back Indian captives, drive away fierce tribes, and discover mines.

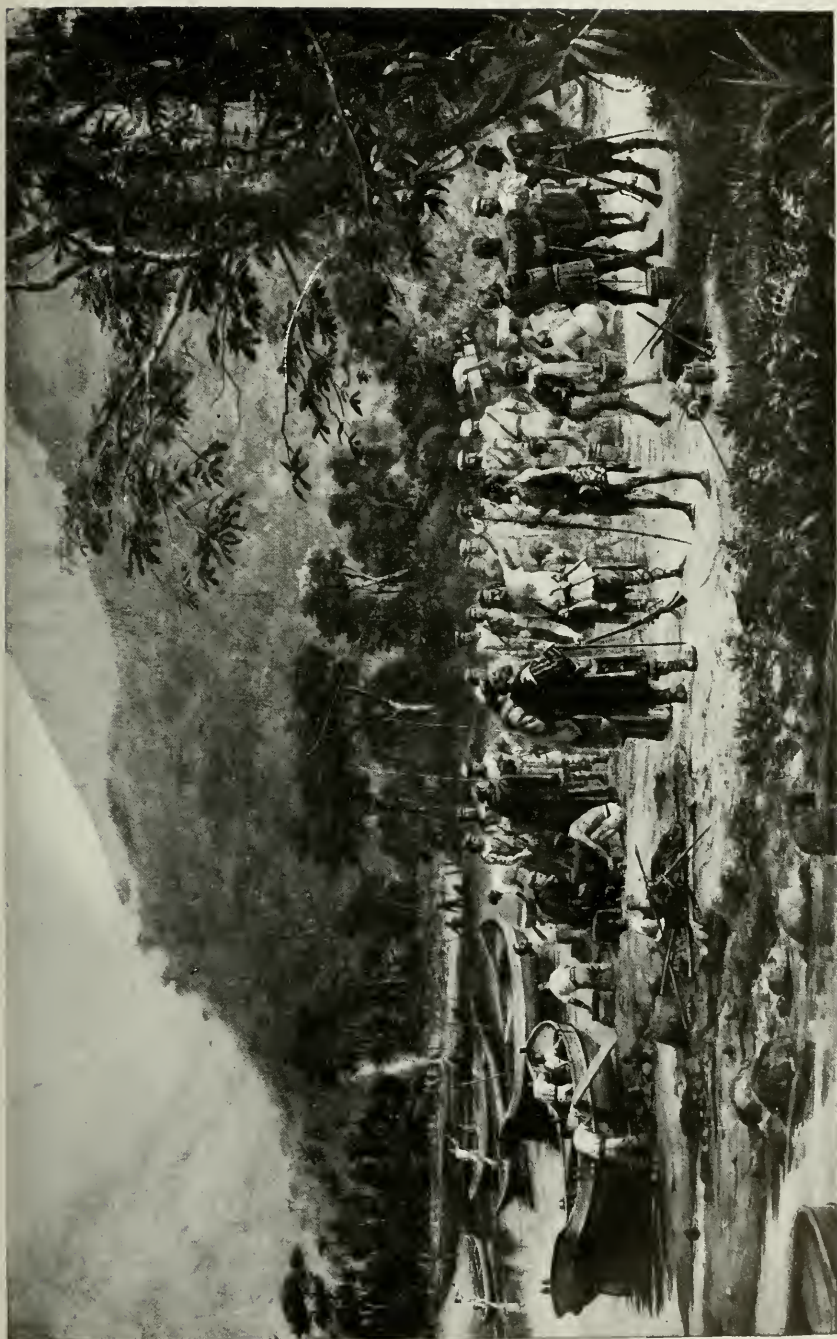
It is not the flag (*bandeira*)—often the royal standard—which distinguishes the *bandeira* from the *entrada*. It is another element which unconsciously determines the character of the *bandeira* and directs its achievements in harmony with the nature of its organization: it is the permanent and deep rooting of the *bandeira* in the soil. The entradas left no lasting or stable sign of their passage. The *bandeiras* strike into the sertão following the course of rivers, traversing plain and forest, and the trails which they open are never again closed, but serve as the lines to mark the newly conquered lands.

Before entering into an appreciation of the typical bandeirante, his surroundings, the organization of his *bandeira*, his gigantic work, and the achievements of his descendants, a glance at the history of the captaincy of São Vicente, afterward named São Paulo, and which was the center and starting point of the *bandeiras*, will be helpful.

In 1500 Cabral resumed his voyage to India, detaching one of his ships from the fleet with orders to return to Lisbon with news of the discovery and the taking possession for King Dom Manoel of the new land first called Vera Cruz, later Santa Cruz, and, finally Brazil. The great dream of Portugal was India, and very little attention was bestowed on the rich possession in America, whose coast served no other purpose than to provide points of call for the watering of the ships on their way to the East. Such was the situation during the first decades of the sixteenth century. A few ships had already made investigations along the coast; that of André Gonçalves in 1501, and that of Gonçalo Coelho in 1503–4, who reached the Cape Santo Agostinho in the north and Cape Santa Maria in the south, on the Uruguayan coast. The celebrated Florentine pilot, Amerigo Vespucci commanded a ship on one of these voyages. Moreover, the Portuguese navigator, Fernando de Naronha, reaches the coast of Brazil and discovers the island which bears his name. In 1513 the fleet under Nuno Manoel arrives at the River Plate, preceding the voyage of the Spaniard, Juan D. Solis, who reached the same place in 1515.

In 1526 the Portuguese throne was occupied by Dom John III, who began to pay more attention to the American conquest. In the same year he sent out a fleet under Christovão Jacques and, in 1530, another under Martim Affonso de Souza. The last-mentioned admiral detached Diogo Leite, who sailed to the north as far as the Gurupy River, and Pero Souza, who, directing his course to the River Plate, sailed up the latter a distance of 115 leagues, after setting up a landmark at its mouth in the name of the King of Portugal. Returning to the South, Pero Souza met, at the island of Palmas, his brother Martim, and the two, touching at Cananéa, proceeded to the island of Tumissú, afterwards called São Vicente, where they landed and founded a colony and fort. Martim received the valuable aid of João Ramalho and Antonio Rodrigues, two shipwrecked Portuguese mariners who dwelt among the natives, having married indian princesses of the tribes of the Goinás or Guyanazes of the Tupi race. These tribes inhabited the seashore facing São Vicente, where they allied themselves with the Portuguese.

In 1534 Martim Affonso received the gift of the captaincy of São Vicente. Dom John III, having decided to colonize this rich possession and being desirous of driving away the French and English pirates who infested the coast, trading in brasil-wood with the indians, established the system of hereditary captaincies, which he granted to Portuguese nobles of particular prominence who undertook to settle and govern them at their own expense, the Crown not being able to defray the cost of colonization. The grants consisted of tracts of land varying in width from 30 to 100 leagues along the seacoast. The grantees who received the title of "capitão-mor"—or "grand captain"—possessed the rights of overlords and the privilege of granting lands in perpetual fee, the levying of tithes, and enslaving the indians; they were responsible to the King only, and in person. But, in consequence of the failure of practically all the captaincies except those of São Vicente in the south and Olinda in the north, Dom John III decided to create a general government in Brazil, to which he transferred a great many of the functions of the grantees, it being established that the captaincies were to be subordinated to this government. In pursuance of this arrangement Thomé de Souza, who was appointed governor general in 1549, founded the city of São Salvador, in Bahia, where he installed the seat of his government. Besides the principal authorities, military forces and the colonials with their families, the new governor brought out the Jesuits, who were destined to play an important rôle in the development of the colony. Thomé de Souza came to São Vicente in 1552, where he sanctioned the founding of the city of Santos by Braz Cubas, which was to become at a later period the great Paulistan port. Thomé de Souza, moreover, elevated to the rank of a village, with João Ramalho for its major captain, the



From a painting by Benedito Calixto in the Archbishop's Palace, Rio de Janeiro.

ON THE WAY TO PIRATININGA.

Martin Afonso, Grand Captain of São Vicente, is standing in the center talking with João Ramalho, who shows him the way to the Plains of Piratininga. João Ramalho, a shipwrecked Portuguese sailor, had lived among the Indians twenty years, and had married the daughter of an Indian chief.

settlement of Santo André da Borda do Campo, which stood between the seashore and the plains of Piratininga and which was inhabited by the shipwrecked Portuguese sailor and his numerous descendants. The plains of Piratininga attracted the attention of the Jesuits who accompanied Thomé de Souza on his visit to the captaincy. Far removed from the distractions of the larger settlements, they were able to devote themselves there to the work of converting the indians.

There, on a beautiful hill arising from the plains, they celebrated mass and laid the cornerstone of a college on the 25th of January, 1554, which is, therefore, the date of the foundation of the city of São Paulo. There were in all 13 priests, under the guidance of their provincial, Dom Manuel da Nobrega, among the novices being José de Anchieta, a native of the Canary Islands, who was destined to become famous by reason of the great rôle which he played in the history of colonial Brazil. In a short time the settlements in the neighborhood of the college entered upon a period of great prosperity. These settlements were composed of indians of the tribes of the Guayanazes, whose chiefs were Tibiriçá and Geribatiba. The labors of the Jesuits in the conversion of the indians were just beginning to yield fruit, when the settlements were attacked for the first time by the indian confederates—Tomoyos and Carijós—by way of reprisal for the capture of indians by the colonials. The Jesuits did everything in their power to prevent the enslavement of the natives, but all their efforts proved fruitless. Hence the vengeance of these tribes against the whites and the Guayanazes, who were the allies of the Portuguese and the Jesuits. The Guayanazes belonged to the Tupi race and were self-governing tribes; they were quite advanced, lived according to the laws of nature, practiced monogamy, and never engaged in war except in revenge. They did not eat their prisoners as was the custom of other tribes, nor did they practice cannibalism except in the case of murder, when the assassin was turned over to the family of the victim to be by them devoured. The three principal Guyanaz tribes were: The Cayubis, whose chief was Geribatiba; the Piratiningas, under the leadership of Tibiriçá; and the Ururays, whose chief, at the time of the alliance with the Portuguese, was Piquerooby.

The chiefs first mentioned, together with their people, remained afterwards with the Jesuits in Piratininga while the Ururays under the command of Arary, successor of Piquerobi, the friend of the Portuguese, abandoned the allurements of civilization and returned to their oldtime life in the wilderness. This last tribe allied itself with the Carijós and Tamoyos and with them proceeded to attack the College of São Paulo and the settlements of Piratininga and Cayubi in July, 1562. The defense was heroic, Tibiriçá being killed in

battle. The Jesuits and their converts thus saved São Paulo. The confederates were repulsed, Ramalho and his mamelukes, fearing new attacks, removed to São Paulo, and the old village of Santo André fell into decay. At this juncture the indian confederates planned a simultaneous assault on all the settlements in the captaincy. The news reached the ears of the Jesuits, upon which Nobrega and José de Anchieta resolved courageously to appear suddenly in the camp of the hostile tribes at Iperoig. The latter listened to them and finally agreed to make peace, Nobrega returning to São Paulo with the terms demanded by the confederates. José de Anchieta, who remained as a hostage, soon became so endeared to the indians that they offered him an indian princess in marriage. In the three months during which he remained with them Anchieta wrote in the sand and learned by heart his celebrated poem in honor of the Virgin. At length Nobrega returned with the acceptance of the proposals of peace. The two Jesuits then returned to São Paulo, where they were received in triumph, having for the second time saved the colony. They continued in their work of conversion, maintaining all the while their brave struggle against the enslavement of the indians by the colonials—a struggle which lasted through the entire period of their stay in Brazil. They also prevented or minimized in a large measure the disorders and excesses prevalent among the colonials who were living in an atmosphere marked by the weakness and incompetence of official authority. If, on the one hand the Jesuits protected the indians, on the other they endeavored to regulate the customs of the society in which they lived, and it was this feature of their activities that constituted their “strongest moral asset.”¹ Moreover, they rendered signal service in the cause of the colony when, at the time of the expulsion of the French from the Bay of Rio de Janeiro in 1567, they brought down from São Paulo a considerable number of mamelukes, who proved very effective aids to the Portuguese authorities in the encounters in which they were finally victorious.

At the beginning of the epoch of the bandeiras, São Paulo was the most important part of the captaincy of São Vicente; its inhabitants were prosperous and, as they had large resources at their command, they were able to maintain bandeiras at their own expense. From the middle of the sixteenth century the greater part of the population consisted of mamelukes, but with the news of the increasing prosperity of the captaincy, a stream of immigrants turned Brazilward, composed not only of Portuguese, but of other nationalities chiefly Germans, Spaniards, and Italians.

These new arrivals soon constituted the majority of the population,² whereupon the European element began to assert itself in the cap-

¹ João Ribeiro, *História do Brasil*.

² Rocha Pombo, *História de São Paulo*.

taincy creating, by fusion with the primitive inhabitants of São Paulo, a genuine national type, a new factor destined to predominate in the seventeenth century, after having assimilated the indian elements. And now the new Paulista must overcome, by the power of numbers, the representatives of the inferior races—the indian and the negro, the importation of the latter having just begun. The Paulista inherits from his European forefathers his intellectual culture, his name, rank and religious sentiments, the love of luxury, respect for tradition, and political ambition. The Europeans had brought with them the thirst for an atmosphere of freedom in which their activities might be exerted without restraint and where they would be less subject to the influences of the mother country. And this thirst was not unsatisfied. The European immigrants were not mere adventurers; those who came in order to occupy different offices in the public administration under the loyal authorities continued to remain and finally settled down in their new surroundings; even members of the higher nobility, fleeing from religious intolerance and political persecution, soon felt comfortably at home, allying themselves with the best Paulista families, like the Paes Lemes, the Buenos, and the Taques. Many bandeirantes who boasted of the genuineness of their European nobility united with the descendants of the daughters of Tibiriçá and Piquerobi, chiefs of the Piratiningas, Ururays, and Guyanazes, who were the most noble of the Tupi tribes. The Portuguese sovereigns held in the highest esteem the merits and worth of the Paulista gentry; corresponding with them with their own hand when, as often happened, they had need of their help in matters affecting the royal crown.

The Paulista, who had thus inherited from his ancestors the love of freedom, feels that he is a new power, and that he is called upon to play a great rôle in the political and social evolution of the colony leading at a later period to its complete emancipation.

And while he is still in intimate contact with the two backward races, and in the presence of wild and unknown nature represented by the sertão, let us define the character of the Paulista, which is at once tenacious, proud, violent, resolute, simple, hospitable, suspicious, and religious. The Paulista potentate of that period lived in luxury and splendor: his plate was of the best silver from Peru; he imported fine horses; owned immense plantations, where thousands of slaves, indians or negroes planted crops or raised cattle; on these plantations he had stores of arms and ammunition, as well as workshops which produced only enough for the use of his people, inasmuch as industries were prohibited by order of the Crown. The indians lived in settlements and the negroes in quarters surrounding the demesne, which included a church for the use of the master and his family and dependants. In the course of time these planta-

tions were transformed into settlements. Being possessed of enormous wealth, the planters were exceedingly open-handed, and were very active in erecting sumptuous churches, convents, and public buildings. This is an outstanding feature of the seventeenth and eighteenth centuries, when the mines discovered and exploited by the Paulistas afforded ample resources for these generousities, which were practised not to please the King, but because such works contribute to the beauty and progress of their native land. And all these things gave them prestige in the eyes of the masses. The Paulistas are respected by the authorities and they are loyal to the King, as is recognized by Dom John V, who issued an order "giving the title of nobility, with all knightly privileges to those who served as aldermen or justices in ordinary, or attorneys for the council of São Paulo," for which offices native born Paulistas enjoyed the preference over the Portuguese.³ They cast an advisory vote in the government council and were eligible to the mayoralty of the towns and cities, which was not only the most honorable elective office of the time but one which enabled them to keep the control of the colonial machinery in their own hands. Governor General Luiz Antonio de Moura reported to the King in 1766 that: "The Paulistas are great servitors of Your Majesty. They are robust, strong, hale, and hearty, and are capable of bearing up under the heaviest labors." It is evident therefore, that they were not adventurers but men of noble character, energy, and courage, the only people capable of the work which they accomplished, which was perhaps, "the most important page in the history of our country, since it included the conquest of the immense region of central Brazil and its addition to the civilized seacoast section which, but for this circumstance, might have been wrested from us by the foreign invaders," who succeeded in getting a foothold in that part of the colony owing to its lack of arms and men, and who were finally expelled by the Brazilians—a fact which serves to show that the national spirit was already formed and that a united people was acting in its own defense.

A superficial study of the bandeirante might perhaps lead to the condemnation of his work, because one of the objects of these expeditions was the capture of indians. But the indians were captured either as the result of the bandeirante's efforts to secure possession of new lands contiguous to his own settlements, thereby insuring the latter from assault, or to make them captives because he wished to bestow upon them the benefits of civilization. Moreover, for the development of the colony, European labor was insufficient. How was this deficiency to be made up? Clearly by the indians, who otherwise did nothing but destroy the work of the colonist and threaten his safety. To bring them in by peaceful means was impos-

³ Padre Galanti, *Compendio de Historia do Brasil*.

sible, for they were warlike by nature. True it is that the Jesuits succeeded in doing so, but those secured in this way were considered free and not amenable to the requirements of heavy labor. To rid themselves of this constant menace there was only one way, that is, to make war upon them, subdue them, and bring them in as prisoners or slaves. A much worse fate awaited the prisoners taken in the intertribal wars of these savage tribes, for they were eaten by their captors, a custom from which only the Guyanazes were exempt. The colonial, therefore, had to choose between two methods when he succeeded in defeating them: He must either slay them forthwith or enslave them, as the idea of freeing them was not understood or thought reasonable before the nineteenth century.

Even before the close of the period of the bandeiras, many expeditions were organized for the sole purpose of discovering mines, and imported African slaves were utilized for labor. About this time the indians ceased to be persecuted. Not all those who owned slaves were unduly hard masters, if for no other reason than their friendship with the Jesuits, who educated their children. There are many who condemn the Jesuits because they protected and defended only the indian and did little or nothing for the negro. But the fact is that the negro was already a slave when he came to the colony, was indeed often a slave in his African home, whereas the indian had been free up to the arrival of the Portuguese explorers and settlers.

Let us glance now at the organization of the bandeira. A bandeira was formed by private initiative and maintained entirely by its organizers. In practically all cases it began by complying with certain legal formalities. Each bandeirante contracted certain obligations in exchange for certain rights, an entirely new procedure, in view of the fact that the bandeirante did the actual exploring at his own expense and at the risk of his health and life.

The bandeirante depended solely upon his own efforts, energy, courage, and the resources of his fortune. He needed exceptional powers, and these were conferred upon him by the representatives of the mother country either by royal letters and commissions investing the chiefs with "*jus vitæ et necis*" over all those who were under his banner, together with certain privileges during the entire period during which the bandeira remained in the wilderness. Sometimes the King would appoint the chief to be governor of the band, with full civil, criminal, and military jurisdiction, but more often the chief was made major captain of such towns and cities as he might establish. In addition to all this the organizers and heads of bandeiras were given the promise of high dignities and titles of nobility.

But it is not the ambition to gain these honors which impels the bandeirantes to undertake such enterprises. It is rather a desire to extend the limits of the new nation and to discover the wealth

that lies hidden beneath its soil. Naturally, they are faithful to the King, never failing to erect landmarks recording their conquest in the wilderness for the King of Portugal. Although the King had not put a penny in the enterprise, he had everything to gain by its success, for should the bandeirantes discover mines, the material effect would be to fill the royal coffers by means of poll taxes, tithes, and "twentieths," including a tax of one-fifth on the gold, as well as a monopoly of all diamond diggings and trade in diamonds.

The bandeiras were also required to raise a body of troops properly trained and equipped. The chiefs might therefore enlist men and require obedience on the part of all members of the band, who swore allegiance and were kept under a most rigid discipline. The chief of each bandeira was an absolute sovereign in the wilderness. It should be noted also that each bandeira was accompanied by chaplains and civil and other officials for the administration of any governments which might be established in the newly created settlements, including a secretary, whose duty it was to set down the route and the daily happenings during the expedition. The forces were preceded by scouts, whose business was to



JOAQUIM JOSÉ DA SILVA XAVIER, THE TIRADENTES—PROTOMARTYR OF THE REPUBLIC.

open up the way. At convenient places they halted to construct sheds, clear and plant fields for the next season, and to establish forts for defense against assaults on the part of the indians. These fields, sheds, and forts became in time the foundation of future towns and villages. Some of the bandeiras last for years, many of the bandeirantes remaining in the sertão and sending for their families at a later period. Before the departure of a bandeira, mass was said and a holiday declared in the respective village or town. Those bandeiras which set out toward the end of the sixteenth and during the seventeenth century suffered the greatest hardships and dangers because their way lay

through trackless forests never before penetrated by civilized man; those which set out at later periods found the way open and freed from indians. It should be noted that the chiefs, officers, and chaplains are invariably either white men or mamelukes; the rank and file being composed of indians and, at a later date, of negroes.

"In our traditions," says Rocha Pombo, "we still retain the idea of the *bandeirante*: A broad-brimmed straw hat turned down at the back, a poncho on his back, together with his sack of clothes; at his side his shot bag and powder horn, on his shoulder his gun, and in his belt his woodman's knife; his hair was nearly always long and his beard heavy; such is the figure of these new crusaders."⁴

Paulista and *bandeirante* are synonymous terms, for practically all the *bandeiras* were organized and directed by the inhabitants of the territory of São Paulo, which was the general center from which they radiated. But it must not be forgotten that there were various *entradas* conducted by men equal in character and ability to the Paulista *bandeirantes*. These expeditions were directed by persons from other parts of the colony, some of whom were Portuguese and some foreigners. In general they started from the seacoast, ascended the rivers which empty into the Atlantic along the coast of Espírito Santo or Bahia, climbed the first mountains, and dropping into the heart of the forest wilderness probably beheld the São Francisco River. Others, starting from points farther to the south, scaled the Serra do Mar, and burying themselves in the forest, became acquainted with many of the tributaries of the Paraná River. The former were under Spínosa and Father Aspianeta Navarro (Jesuit), Miguel Henrique, Vasco R. Caldas, Martins Carvalho, Pedro Gandavo, Luis Espinha, Sebastião Tourinho, who found the green stones which he mistook for emeralds; Melchior Dias, who saw silver mines, which his descendants like Jorge or Roberio Dias sought to discover at a later period; Antonio Dias Adorno, who supposed he had discovered the Emerald Mountains; João C. de Souza, following his trail, died without finishing his task. His nephew, Gabriel Soares, the famous author of the Chart of Brazil, attempted to follow the same trail and died in the wilderness. Affonso Sardinha, Antunes Maciel, Francisco Dias Avila, Diego Martins Cão, Marcos de Azevedo de Azevedo Coutinho, Dom Francisco de Souza, the governor general, all attempted to follow the trail of Tourinho, being anxious to find the silver mine which had been discovered by Melchior Dias, Father Ignacio Figueira, the Jesuit, and others. From Rio de Janeiro started the *entrada* of Martins C. de Sá, son of the governor, Salvador Corrêa de Sá, the expedition being accompanied by the Englishmen A. Knivet and Henry Barroway. From Pernambuco started those of Francisco Caldas and Gaspar Dias de Taide, and in the time of the Dutch those

⁴ Afranio Peixoto, *Minha Terra, Minha Gente*.

of Elias Herckmans and Mathias Beck, who reached the lands of Ceará. From Maranhão, that of Bento Maciel, who reached the Mearim and Pindaré Rivers. The Rio Negro, in Amazonas, was reached by Manoel Pires, who took possession of the lands for Portugal, in 1565 or 1567.

The most noteworthy entradas which started from the seacoast and from the interior of São Paulo may be summarized as follows: Pedro Lobo, by order of Martim Affonso de Souza, in 1531, took for his guide a certain bachelor of Cananéa, probably Francisco Chaves, who, with his followers, was devoured by the Carijós; Aleixo García and his companions, who reached the confines of Peru and on their return fell a prey to the Guarany; Ulrich Schmiedel, who went from Paraguay to the plains of Piratininga in 1552; Braz Cubas and Luiz Martins, Francisco Proença d'Avila, Nicoláo Barreto, Gonçalves Lago, Francisco Proença, and the Dutch savant, Wilhelm Glimmer, who, following different trails, succeeded in reaching the sertão of Minas Geraes. Besides the entradas just named we must mention those undertaken by Antonio Raposo and Luiz Raposo de Barros, who went from São Paulo to Paraguay and, during the period 1629-1632, attacked and destroyed the redoubts of the Guarany Indians, established by the Spanish Jesuits. The 12,000 Indians who succeeded in escaping with Father Mazeta, established new redoubts on the shore of the Uruguay. From this encounter Raposo brought away 3,000 prisoners, who were sold as slaves in São Paulo and Rio de Janeiro. Raposo, later, effected another entrada in which, crossing the Andes, he reached the Pacific Ocean. During the entrada of Francisco Xavier Pedroso and Campos Bicudo, Villa Rica, the last redoubt of Guayrá was destroyed, the Guarany revenging themselves at a later date by attacking the Paulista bandeiras in Matto Grosso. In 1637 Capt. Bento Teixeira, accompanied by Father Acuna, went as far as Quito, by way of the Amazon River, reaching Pará on his return. These entradas, which all took place in the sixteenth and seventeenth centuries, proved relatively unimportant.

The learned historian, Capistrano de Abreu, gives a condensed account of the routes followed by the bandeiras:

The geographic part of the expeditions corresponds more or less to the following: After leaving the Tieté, the bandeirantes reached the Parahyba do Sul by way of the defile of São Miguel, which they descended as far as Guapacará, now Lorena, whence they traversed the Mantiqueira at or near the place where it is now crossed by the Rio and Minas Railway. Traveling in the direction of Jundiahy and Mogy, they passed to the left of the Urupunga Falls, following the Parahyba as far as Goyaz. The line of penetration from Sorocaba led to the head waters of the tributaries of the Paraná and Uruguay Rivers. Following these rivers, which descend by the falls of Urubupungá and Guayrá the bandeirantes passed from the basin of the Panamá to that of the Paraguay, reaching Cuyabá and Matto Grosso. In the course of time, the line of the Parahyba connected the plateau of Paraná with the valleys of the São

Francisco and Parahyba, while the lines of Goyaz and Matto Grosso connected the Amazonian table-land with the Amazon river by way of the Mdeira, the Tapajós, and the Tocantins.

It would require many volumes to describe the varying fortunes of the bandeiras, their discoveries, their sufferings, their struggles against the asperities of nature in the wilderness, against wild beasts and savage indians. The epopee of the bandeiras is the drama of the sertão. We shall now proceed to a consideration of the principal bandeiras and their terminal points.

The most famous of all the bandeiras is that of Fernão Dias Paes Leme, a member of the highest Paulista nobility. He makes his appearance when the people of São Paulo had, at the request of the King, assembled the elements for the expedition under Azostinho Barbalho, who intended to follow the charts depicting the entrada of Marcos de Azevedo. Barbalho, however, died before the departure of his expedition. Fernão, already an old man, thereupon undertook to carry out the enterprise. His was a well-known figure, as years before he had headed an entrada to the Apacurana Mountains, in Paraná, whence he had brought back thousands of Indians.

This new bandeira started in 1674, after the most imposing formalities, including the naming of Fernão as governor of the band and of the emerald region—the discovery of which had long been his dream. With him went his son, Garcia Rodrigues Paes; his son-in-law, Manuel Borba Gato; and José Dias, his natural son, the cause of a great tragedy which took place during the expedition; Mathias Cardoso de Almeida; Antonio G. Figueira; Antonio P. da Cunha; Francisco Pires Ribeiro; and other men of solid worth; besides hundreds of indians, mamehukes, and slaves. The King kept in close touch with the progress of this particular bandeira, which lasted seven years, and gave rise to a number of villages and towns. At last the bandeirantes discovered Itambê—the long-dreamed-of Emerald Mountain. The coveted green stones were found in abundance, but while Fernão was on his way back to São Paulo with the supposed treasure, he sickened and died at Sumidouro. The emerald searcher went to his grave in the belief that his stones were emeralds, although it was afterwards found that they were nothing but tourmalines. The glory of his bandeira, however, lies in the fact that it founded what is now the State of Minas Geraes.

Other bandeiras which came later to the territory opened up by Fernão, discovered rich mines of gold and diamonds. The mines of Sabará-bussú were discovered in 1696 by Borba Gato, and Lourenço Castanho Taques, a Paulista nobleman at the head of an important bandeira, discovered gold in the territory of the Cataguazes, a tribe of exceedingly fierce indians. This place was found to be so rich in

gold that the whole territory came to be known by the name of Minas Geraes (General Mines).

By the year 1616 the sertão had been traversed by the following-named personages: The Paulista, Antonio Pedroso Alvarenga, who at a later period organized a bandeira to explore the region of the Paraopeba; Paschoal Paes de Araujo, the first to descend the Araguay and Tocantins, who penetrated the forest as far as the south of Piahy, establishing cattle ranches in Pernambuco as early as 1672. Another Paulista, Antonio Rodrigues Arzão, of Taubaté, discovered mines at Caethé, near the Rio Doce, and on his way back, being at the point of death, he confided his secret to his brother-in-law, Bartholomeu Bueno de Siqueira, a nephew of Amador Bueno and a cousin of the bandeirante Jeronymo, who was killed by the Guarany's in Paraguay. Bartholomeu was perhaps the greatest sertanista of the seventeenth century, having conducted a number of bandeiras during the course of his life. With the chart of Arzão in his possession he associated himself with Carlos da Silveira, and it was Miguel de Almeida, of his party, who discovered gold at Itaverava. The bandeira of Col. Salvador Furtado de Mendonça, of Taubaté, discovered the splendid mines of the Ribeirão do Carmo; the governor of Rio de Janeiro's expedition was conducted by Antonio Dias de Oliveira in the mountains of Itacolomy where he discovered the rich mines of Ouro Preto in 1698; while that of Amador Bueno explored various sections of the Sertão of Minas.

Still other Paulista bandeiras were engaged in the latter half of the seventeenth century in subjugating the Querens in the valley of the São Francisco. These latter, effected at different periods, included that headed by Domingos Barbosa Calheiro, which was entirely unsuccessful; that led by the celebrated João Amaro, in 1669, which swept the indians from the west and north of Bahía; and that conducted by Estevão Parente, Domingos do Prado, and the Portuguese Domingos A. Mafrense, which drove the indians from the Valley of the São Francisco to the south of Maranhão, effecting settlements in the latter region and also in the south of Piahy. We must mention also the famous bandeiras led by the Paulistas Mathias Cardoso de Almeida and Antonio Gonzalves Figueira who, after expelling the indians from the São Francisco, advanced to the aid of Ceará and Rio Grande do Norte.

It should be noted that all the Paulistas who were successful in the wars against the indians in the valley of the São Francisco obtained grants of land there, so that they, together with the Portuguese Açorians and Pernambucans from the coast, settled not only that region but the whole northeast section of Brazil, establishing great cattle ranches, and planting sugar cane, tobacco, and cotton. From the intermingling of these people arose a characteristic type

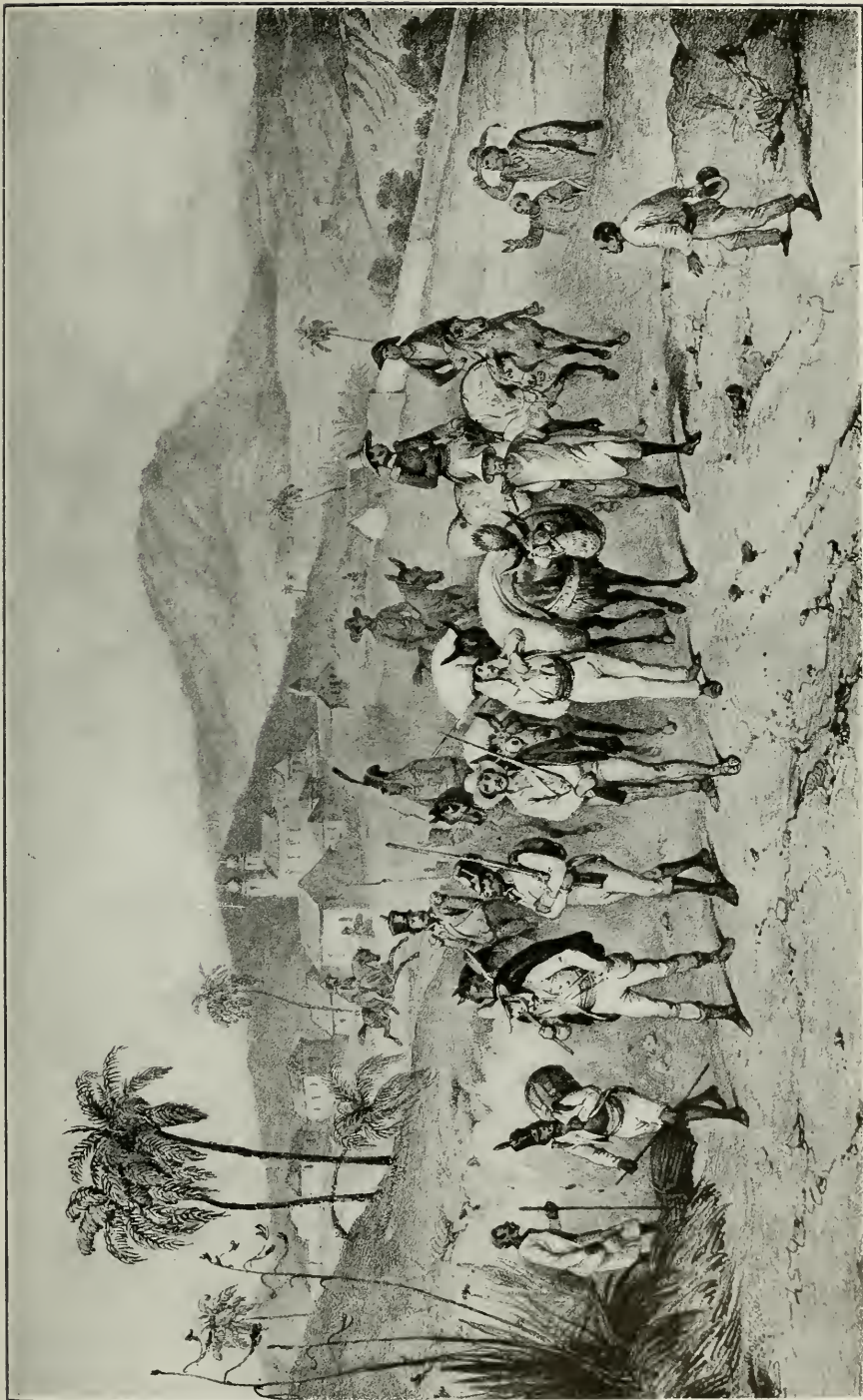
in the Brazilian race—the *sertanejo* or *sertanista*; that is, backwoodsman. The sertanejos are white—and sometime even blond—but more frequently dark complexioned with red hair. The sertanistas possess many admirable qualities, including a certain spirit of chivalry and a rather exaggerated sense of honor, which leads them frequently to resort to the use of arms, which they learn to manage from infancy.⁵

In the period 1654–1674 many fruitless efforts had been made by expeditions sent out from Pernambuco to destroy the redoubts of Palmares, where large numbers of runaway negroes had assembled, living under a government which they themselves had set up. Several cities having been attacked during that period, the Pernambucans appealed for help to the Paulistas, under Domingos Jorge Velho. Upon the approval of the Portuguese Government, the Paulistas were joined by the Pernambucans and Portuguese soldiers, making a total of 7,000 men. As the negroes were well fortified and put up an heroic resistance, the struggle lasted from 1697 to 1703, when the redoubts were finally demolished, Jorge Velho being rewarded with titles and other honors and the Paulistas with grants of land, on which they founded the towns of Anadia, Atalaya, and Jacuipe, from which later they proceeded to occupy various sections in Sergipe and Alagoas. In the valleys of Jaguaribe and Aracajú in Ceará the descendants of these Paulistas established cattle ranches as early as 1699.

The lands of Goyaz were discovered in 1682 by Bartholomeu Bueno de Siqueira, a celebrated Paulista bandeirante, mentioned earlier in this sketch in connection with his explorations in Minas Geraes. Bueno finally reached the Vermelho River where, through crafty dealings, he obtained from the indians information as to the location of the gold mines. The indians called him Anhanghera, the “conjuring god.” On the way back to São Paulo, Bueno met, in Goyaz, the Paulista Antonio P. de Campos who had come all the way from Cuyabá, through the interior, traversing unknown regions. In 1726 and 1728, Bueno undertook two bandeiras with the object of discovering new lands along the trail broken by his father, in the second of which he discovered the gold mines of the Vermelho River, founding Villa Boa, the future city of Goyaz. Bartholomeu Bueno, the younger, who at the age of 12 had accompanied his father in one of the expeditions, died in poverty in 1740. The King, however, as a reward for his great services granted his sons the returns from the toll charges at a number of river crossings.

Matto Grosso is another of the conquests of the Paulistas. The bandeira under Pachcoal M. Cabral Leme, Antonio P. de Campos, and Miguel Stuil reached Cuyabá in 1718, descended the Paraguay River as far as the Coxipó-mirim, finding an abundance of gold,

⁵ João Ribeiro, *Historia do Brasil*.



A CONVOY OF DIAMONDS FROM THE MINES OF BRAZIL.

From an engraving published in 1835.

founded Cuyabá; that under Fernando and Arthur Paes de Barros discovered gold in the Parecis Mountains, founding in 1734 the town of Villa Bella on the banks of a tributary of the Madeira River, this settlement becoming in the course of time the Government seat of the captaincy of Matto Grosso. The bandeira of Antonio Almeida Lara, in 1737, went by land from Cuyabá to Paraguay, establishing settlements along the way; and it was this same bandeira which opened a road from Cuyabá to Goyaz for the driving of cattle—which road still exists, though in a rather neglected condition. One of the strongest bandeiras reached Villa Bella in 1741, when several Paulistas descended the Guaporé to Pará, returning thence with Portuguese authorities and troops. In 1749 the Spaniards were expelled from the shores of the Madeira, Mamoré, and Guaporé, a result due in a great measure to the action of the Paulistas in the struggle. In 1740 the bandeira of Antonio Falcão and Pachcoal Arruda discovered diamond mines in the Arinos River. As this expedition proceeded, they set up landmarks in the name of the King of Portugal along the rivers of the Amazon basin—in some cases, Portuguese forts also, as at the mouth of the Javary, where they built the fort of Coimbra, destined later to play an important rôle in the history of Brazil.

Paraná, Santa Catharina, and a part of Rio Grande do Sul were first explored by Paulista bandeirantes, the gold mines of Paranaguá being worked as early as the end of the sixteenth century. After the year 1647 a number of settlements were founded by Paulistas in the south, such as Paranaguá, Curytiba, Castro, and Lages, and the plains of Gurapava and the valley of the Typagy were explored. In 1684 the bandeira of Domingos de Britto Peixoto and Sebastião Guerra founded Laguna, descended the River Plata and, on their return, settled in the plains of Vaccaria, where they engaged in cattle raising. In 1722 the Paulista Luiz Pedroso de Barros began the construction of a cattle road from Minas passing through São Paulo and terminating at Colonia do Sacramento on the shore of the Plata. This is the celebrated road of Viamão which, during the course of a century and a half rendered such signal service in affording communication with the southern Provinces.

Thus ended the work of the Paulista bandeirantes which, beginning in the latter part of the sixteenth century, and continuing during the seventeenth and eighteenth, completed the periphery of Brazil. To the south they traveled as far as the River Plata; to the west, as far as Paraguay—almost to the Andes; they reached the Amazon by way of its tributaries on the southern side. They crossed the entire breadth of Brazil, reached the line along which flowed the human current of the seacoast region, which current, advancing into the sertão of the northeast, occupied the north of the valley

of the São Francisco River, the plains of the south of Maranhão and a part of the northeast.

The descendants of the Paulista bandeirantes, while settling, defending, and cultivating the conquered territories, were the constant protagonists of all political movements in favor of the emancipation or independence of the nation and, at a later day, they took part in a no less marked fashion in the principal social reforms of the nineteenth century—the abolition of slavery and the establishment of the Republic.

The work of the Paulista bandeirante and the defense of the eastern and northern seacoast by the inhabitants of these regions did more to insure the territorial greatness of Brazil than the Government of the mother country accomplished during the whole of the colonial period; and it may in truth be said that what the colonials secured one day the mother country lost from pure ineptitude on the next. This was the case on the Oyapoc, in the north, and on the left bank of the Plate in the south. The work of the bandeirantes served as the basis for all the diplomatic treaties which have been signed since the year 1750, when their work was first sanctioned and confirmed. "Brazil, therefore, had to be won by its inhabitants—let us say by its children,"⁶ in the words of the eminent historian, Senhor Oliveira Lima.

While the territorial greatness of Brazil was being achieved, the descendants of the bandeirantes were not unmindful of cultural pursuits. With material wealth came a taste for literature and the love of art. In luxury and show São Paulo, Villa Rica, and Diamantina were the rivals of Olinda, which was the home of the nobility among the lords of the Pernambuco sugar mills as far back as the year 1750. A galaxy of brilliant epic and lyric poets had given rise to an intellectual movement in Minas, known in literature as the *Escola Mineira*, or Minas School of Poetry. The potentates of São Paulo and Minas sent their sons to Portugal to complete their education in the University of Coimbra, or to France.

The principal political events in São Paulo and Minas, from the beginning of the era of the bandeiras, must be briefly mentioned, since they serve to show the formation of a nationalism endowed with the spirit of liberty and anxious to secure its emancipation from the mother country. This spirit was the soul of the various political events which transpired in that part of Brazil, beginning with the year 1641.

During the seventeenth century questions which arose between the heirs of the grantee of the São Vicente captaincy resulted in the loss of power and prestige on the part of the lieutenants of the crown intrusted with the administration of that captaincy; whereupon, armed

⁶ Oliveira Lima, *A Conquista do Brasil* (a lecture delivered in Brussels).

with the powers granted by the mother country to the municipality of São Paulo, the *senado da camara*, or town council, virtually held the government of the town in its own hands. These privileges, in turn, served to guarantee the inhabitants against the excesses of the grand captains, or governors; the townsfolk enjoyed the benefits of a lay magistracy—that is, justices in ordinary, or justices of the peace—and judges or attorneys of the people, who were elected by popular vote. These last were at a later date abolished.

The people of São Paulo thus enjoyed comparative independence during the Spanish dominion, so much so that the influence from overseas was hardly felt in the internal administration, until, on the first day of April, 1641, news was received of the restoration of the independence of Portugal and the acclamation of Dom John IV. The people assembled in a mass meeting, under the leadership of men who, having profited by the negligence of the Spaniards in the direction of the colony and who, fearing now that the new King might diminish their power, proclaimed Amador Bueno de Rivera, King of São Paulo. "Amador was enormously rich, prudent and wise."⁷ At the time he held the post of mayor, then a high elective office. He was the son of a noble Sevilan, Bartholomeu Bueno de Rivera, and Dona Maria Piras, daughter of Salvador Pires, a European nobleman, and Dona Maria Fernandes, a great granddaughter of the Indian prince Piqueroibi."⁸ Amador fled from the multitude who acclaimed him, and took refuge in the Monastery of São Bento, where, drawing his sword and declaring his fealty to the King of Portugal, he dissuaded the people from their purpose. Thus terminated this first attempt at independence by the Paulista people.

In 1681 the seat of the captaincy was transferred from São Vicente to São Paulo. The Paulistas, increasing from day to day, the captaincies of São Vicente and Itanhaen were purchased and suppressed by the Crown, and in 1709 the captaincy of São Paulo was formed, independent of the government of Rio de Janeiro and comprising the territories of the two captaincies which had been suppressed, all of which, with the addition of those of Minas Geraes, Goyaz, and Matto Grosso, made this the most extensive captaincy in Brazil. In the measure in which these territories increased in population and development, new captaincies were formed, which now constitute several states.

Soon after the Paulistas' discovery of rich gold and diamond mines in the vast territory of Minas Geraes, a current of immigration began to flow into that region, chiefly from São Paulo. Many noble Paulista families went to the first settlements as well as to the mining fields discovered by their kinsmen; among them were the Lemes, the Buenos, the Furtados, the Hortas, the Lobos, the Rendons, the Taques, the Betins, the Laras, the Pires, the Camargos, the Alvar-

⁷ Padre Galanti, *Compendio de Historia do Brasil*.

⁸ Diogo de Vasconcellos, *Historia Antiga das Minas Geraes*.

engas, the Pedrosos, the Cardosos, the Toledos, the Godoys, the Silveiras, the Cabarals, the Paes, the Guerras, and the Leites. Besides these, there was a great influx of Portuguese, whom the Paulistas considered intruders and contemptuously designated as *buavas* or *emboabas*—that is, “tufted chicks,” because the newcomers wore long trousers and spats. “The Indian word ‘mbuab’ denoted a bird with feathers down to its feet.”⁹ Some of these Portuguese were from the seashore: others were “deserters from the colony of Sacramento, who sought to control the rich country discovered by the Paulistas.”

Due to this jealousy, hostilities soon broke out between the two factions, leading to bloody conflicts and finally to a civil war, known in history as the Emboaba War. The Paulistas did not recoil from the encounter, but by virtue of superior numbers the Portuguese were victorious, and installed Manuel Nunes Vianna, a rich Portuguese resident, as dictator of Minas, an action which made them rebels against the Government. Soon after, an officer of the Emboabas, Bento Amaral Coutinho, perhaps without the consent of Nunes, persuaded the Paulistas to accept peace, but when they were disarmed he treacherously ordered the execution of more than 300 of them. The Paulistas assembled from all parts to seek revenge, but the governor, Dom Fernando Mascarenhas, who possessed considerable influence, advised them to desist from their purpose, promising to punish the culprits. The Emboabas, however, prevented him from entering the region where they held sway. Later Governor Albuquerque was compelled to resort to energetic measures to get the situation in hand, but all the rebels, with the exception of Nunes and Coutinho, were pardoned by a royal proclamation. These two, however, had disappeared into the sertão. Thus terminated the struggle between the Paulistas and the Portuguese.

Notwithstanding the vast importance of the mine exploitation, the mother country, through oppressive taxes and monopolies, managed to absorb the greater part of the profits laboriously gained by the inhabitants of the district, and in consequence of persecutions on the part of the authorities, new disorders arose in various parts of Minas. In July, 1720, the people of Villa Rica rebelled against the authority of the governor, Dom Pedro Almeida, Count of Assumar. In order to circumvent the movement, he promised to redress the grievances of the malcontents and to grant an unconditional pardon to the leaders, but no sooner had he gained control than he caused their arrest and ordered their houses to be burned to the ground. One of the rebels, Philippe dos Santos, was hanged after a summary trial, and the other prisoners were sent to Lisbon where, however, they finally received the pardon of the King. In consequence of this

⁹ Diogo de Vasconcellos, *Historia Antiga das Minas Geraes*.

movement the Government decided to create the captaincy of Minas, separate from São Paulo.

The population continued to grow, and the animosity against the mother country likewise increased from day to day. In spite of the terrible taxes with which the inhabitants were burdened, the mining industry had brought Minas riches and progress for more than a hundred years. But the Crown was insatiable, and in order to maintain a pomp and splendor without parallel in Europe since the days of Dom John V, the Portuguese Government multiplied its methods of taxation, and compelled the authorities in Minas to employ coercive measures for obtaining the payment of taxes in arrears, this collection being known as the *derrama*. Taxpayers were not to blame that they had fallen behind, for the production of the mines was beginning to diminish; consequently, how could the exorbitant tax be paid? But the mother country refused to face this fact and persecuted the people until they were desperate.

Meanwhile, the idea of independence from Portugal was growing more and more definite in the minds of the people. The literary class was constantly in touch with the ideas of the French encyclopedists, while the independence of the United States created a spirit of emulation. Brazilian students in Europe were moved to action. They were not preoccupied with the separate identity of the different localities where they were born; their aim was the independence of the entire dominion of Portugal in America. For this reason they all worked together, no matter what their birthplace, and thus we see José Mariano Leal and José Joaquim da Maia, natives of Rio de Janeiro, and Domingos Vidal Barbosa and José Alvares Maciel, of Minas, seeking to obtain from Thomas Jefferson, American minister in Paris 1786, some hope of support from the United States, similar to the help received by that country from the soldiers of Lafayette, for the movement which the students contemplated setting on foot immediately after their return to Brazil. Such was the statement of Maia in his conversation with Jefferson at Nîmes. Jefferson, however, did not make any definite promise. The great American statesman, in a letter to John Gay, dated May 4, 1787, says:

I took care to impress upon him, throughout the whole of our conversation, that I had neither instructions nor authority to say a word to anyone on this subject; that I could only give him my ideas as a single individual, which were that we were not in a condition at present to interfere nationally in any war; that we wished particularly to cultivate the friendship of Portugal, with which we have an advantageous commerce, but that a successful revolution in Brazil could not be uninteresting to us; that prospects of lucre might possibly draw numbers of individuals to their aid, and purer motives our officers, among whom were many excellent men; and that our citizens, being free to leave their country, are equally free to go to any other.

Maia died in Lisbon, when about to embark for Brazil, but Vidal and Maciel, at the conclusion of their university course, brought home

the spark which was to kindle the idea of independence into a blaze, and a conspiracy was prepared in Minas Geraes. Among the conspirators were poets, such men as Claudio Manuel da Costa, Alvarenga Peixoto, and Judge Thomaz A. Gonzaga; priests; and army officers of high rank, such as Col. Freire de Andrada. The soul of the movement, however, was a lieutenant of cavalry, Joaquim J. da Silva Xavier, nicknamed "Tiradentes," as he had previously been a dentist. He was a man of unblemished character, great energy, and a deeply religious mind, filled with enthusiasm by the idea of his country's independence. He went to

Rio de Janeiro to secure recruits and arms. The conspirators met in Minas, and chose the motto for their flag, "Libertas quæ sera tamen." According to their plan, the revolution was to break out in Villa Rica whenever the Governor ordered the collection of the derrama. One of the conspirators infamously informed the governor, Viscount Barbacena, of the whole plan, whereupon Barbacena ordered the derrama to be suspended, and by this means prevented the conspirators from securing the support of the people. Word was sent to the viceroy, Luiz Vasconcellos, in Rio de Janeiro, and he succeeded in discovering the hiding place of Tiradentes, who was arrested and placed in irons. Barbacena then ordered the arrest of all the conspirators and sent them to Rio de Janeiro. This was in 1789.

The trial lasted three long years. When sentence was read it was found that all the leaders had been condemned to death, their names to be branded with infamy, and their property confiscated. Without waiting to hear the decision, Claudio M. da Costa committed suicide in prison. But a few hours after the sentence was pronounced the "Grace of Queen Mary I" was promulgated, by which the penalties of all except Tiradentes were commuted to transportation to Africa.

Tiradentes was to be hanged. His posterity was declared forever infamous; his body was to be quartered and the pieces scattered



GENERAL CANDIDO MARIANNO DA SILVA
LONDON.

Director of the Service of Protection of Indians.

along the road to Minas "for a terrible example to the people." The authorities of the Crown sought to invest the execution with the greatest impressiveness. The streets through which the procession was to pass were lined with troops, and thousands of horror-stricken people waited to witness the execution. To the scaffold, erected in the square called Campo da Lamaposa, the condemned man, surrounded by priests, walked from the prison. "Tiradentes's cheeks were flushed fiery red. He walked with a quick step and murmured, as if talking with the crucifix which he held before his eyes. Such an example of fortitude and faith had never been seen."¹ "He calmly ascended the steps of the scaffold, and after beseeching the hangman to make quick work of the execution, he continued to gaze on the crucifix. He then repeated the creed, and as he finished there arose from the assembled multitude a great shout of anguish as the body of the martyr was seen to drop and hang dangling from the beams of the scaffold."¹⁰

The execution of Tiradentes took place on the 21st of April, 1792. Instead of striking terror to the hearts of the people, as the Portuguese Government and its agents had hoped, it served only to strengthen their determination to attain independence. In the tale of the heroic sufferings undergone by the descendants of the bandeirantes in the cause of Brazilian liberty, the martyrdom of Tiradentes marks the sublime climax. But in the strife for the realization and consolidation of independence, in the defense of national unity, and later in the struggles which had for their object the achievement of democratic ideals—the abolition of negro slavery and the establishment of the Republic—those to whom was transmitted the patriotic zeal of the bandeirantes continued to play a most important part.

Under the full sun of the twentieth century the great bandeirante, Gen. Candido Rondon, and his gallant fellow-commissioners, nearly all of them officers of our Army and Navy, are claiming for civilization the last tribes of the remote regions in northwestern Matto Grosso.

The work of the descendants of the bandeirantes is still unfinished; it continues, and will continue forever. Vast enterprises still await them as worthy descendants of their great forebears and as heirs to the cherished ideal of upholding and glorifying their common country, Brazil. In the words of Olavo Bilac:

Thou shalt speak in the turning plow, in the sound of vesper bell,
In the tumult of crowded streets, in marts and the long highways,
In the clamor of daily toil, in the blessed hymns of praise.
And, down the mists of ages, escaping oblivion's knell,
Thou, tamer of virgin forests, thou, planter of many a town,
Shalt gloriously live, forever, in the heart of thy fatherland!

¹⁰ João Ribeiro, *História do Brasil*.

A CENTURY OF INTERNATIONAL FRIENDSHIP¹ ∴

By HELIO LOBO,

Consul General of Brazil in New York.

IT is a great pleasure for me to address you to-day under the auspices of the Pan-American Society of the United States, to whom I voice my appreciation. The society is already to be credited with a great many services rendered in the cause of inter-American approximation, among which to-night's may find a place, not so much because of the interpreter who is worth little, but rather because of the subject, always dear.

An old international friendship is that which, ever since the independence, has linked the two greatest republics of the New World. When, on the 4th of July of 1776, the pealing bells announced your emancipation, a glorious war was initiated, for which nothing but victory could be foreseen. Love of liberty so filled every heart that, as early as 1743, Samuel Adams challenged the power of the mother country by discussing, in the presence of the royal governor of Massachusetts, whether it was lawful to resist rulers in time of oppression.

And none the less noble was the strife for autonomy in Brazil in which, by the time it came to an end on September 7, 1822, a cause had triumphed in whose defense Tiradentes had suffered death on the gallows. "Our cause is just, our union perfect, against violence we have taken arms . . . ;" thus declared the insurgents of 1775 in the first Continental Congress, determined to withstand what-



SR. HELIO LOBO.

Consul General of Brazil in New York.

¹ Lecture delivered under the auspices of the Pan-American Society of the United States, in the auditorium of the United Engineering Societies Building, March 22, 1922, at 8.30 p. m.



THE STATUE BY CHARLES KECK, SYMBOLIC OF FRIENDSHIP, TO BE PRESENTED TO BRAZIL BY THE CITIZENS OF THE UNITED STATES.

ever might come. Not different was the banner waved, four years later, by the men of Minas Geraes: "We desire an independent country, free tillage and export, the abolition of slavish and dishonest taxation, the university, justice, government."

Then it was that a mutual understanding began which has not been disturbed in a hundred years of common intercourse. It was inevitable that in such an atmosphere of mutual friendship this good understanding should come into being and that it should become an example between two peoples of different races. The political cooperation between the United States and Brazil dates, therefore, from the establishment of Brazilian independence. But commercial and industrial cooperation had to wait almost a century before finding a starting point worthy of the unlimited resources and geographical position of these two countries.

DEMOCRATIC BACKGROUND.

Before the achievement of independence, even during the early stages of its incubation, Brazilian students were already conferring in Paris with your Thomas Jefferson, who, clearly foreseeing the advantages of an alliance in the southern continent, encouraged his young friends. "The Brazilians," he wrote to John Gay, "consider the American Revolution as the forerunner of the one they desire," and further in a letter to Lafayette he said: "Brazil is more populous, richer, stronger, and as well cultured as the mother country."

You Americans are proud of having given the world a lesson in democracy which still endures, and it was indeed admirable, for it shaped the destiny of the whole continent and became the source of widespread inspiration. Jamestown, with its first elective assembly, the stirring events which took place in Independence Hall, the vote, freedom of speech, trial by jury,—all the guarantees of civil and political life—for these the world is deeply indebted to you.

Brazil did not forget this after she threw off the colonial yoke; although we were governed by a liberal King who, above the crown, placed the nation's will, your example gave us strength. As during the incumbency of Pedro I, the regency, and Pedro II this practice of government remained unchanged, so, when the Republic came into existence and, thereby, the federation, our liberal tradition was already established and universally respected. Although borrowing its constitution in 1889 from the United States, Brazil did not flatter your political wisdom by copying it entirely. With a Charter which for more than half a century had found its inspiration in the most liberal principles of the English constitution—similarly a source of inspiration to the Constitution of the United States—Brazil, in its republican and definitive force of government, found at last its natural pattern.

The liberal ambient in Brazil was such that, transplanted thereto, even in a modified way, the monarchy of the Old World had to adapt itself to its new environment, instead of shaping it. Our entire constitutional and parliamentary history is but the fundamental realization of this truth. That is why Brazil was called "a democracy with a crown." I can not recall this without also bringing to mind the perfection of your Constitution which, created to govern 4,000,000,



SOME OF THE DELEGATES TO THE THIRD PAN AMERICAN CONFERENCE, RIO DE JANEIRO, 1906.

This historic photograph contains a group of some of the most distinguished statesmen and diplomats of Brazil and the United States. Former Secretary of State Elihu Root, as the guest of honor, is standing in the front row in the center. On his right is Baron Rio Branco, at that time Brazilian Minister of Foreign Relations. On the left of Secretary Root (right of the picture) is Dr. Joaquim Nabuco, then Brazilian Ambassador to the United States, while in the center, behind Secretary Root, is the American Ambassador to Brazil, Lloyd Griscom. The picture was taken on the steps of the Visconde de Silva Palace, which the Brazilian Government had placed at Secretary Root's disposal during his stay in Rio. The arms are those of the Marquis of Alirantes, who was the original owner of the Palace.

is to-day protecting more than 100,000,000 of prosperous and happy people.

It is obvious that in our evolution we have both met here and there with obstacles which were hard to overcome, as, for instance, when the spirit of nationality, still vague and incomplete, had to confront regionalism, secession, and the ferment of anarchy. No American will find it difficult to recall this distressing period and that

George Washington was the symbol that overcame it. In Brazil the salvation of national unity was personified in Diogo Feijo, who, in the reaction against widespread sedition, without the aid of either political traps or executions, reestablished order through the employment of strictly civil agencies. This was possible only because in Brazil, as in the United States, we were brought up in the respect of law and peace, without which neither progress nor foreign credit is possible. Both countries of normal evolution, neither has experienced the evils of autocracy nor suffered the scourge of revolution, which from time to time have distressed some of our sister Republics. Moments of national grief and sorrow there have been, and the sacrifices induced by them in behalf of continental political freedom are a noteworthy page in the history of the New World.

INTERNATIONAL STANDARDS.

If such was our political standard at home our international standards could not be other than strongly hopeful and confident. From this confidence friendship has inevitably sprung.

Time is too short to tell of the diplomatic relations between the United States and Brazil. In a publication which was the extension of what it was my privilege to say before two great American universities, I have endeavored to set forth the essential traits of the mutual understanding from which they grew.

Within seven short weeks after his arrival at Baltimore, Silvestre Rabello had obtained from you the formal recognition of Brazilian independence. The American Government acknowledged it before any other country, and your action deeply touched us. We then started a policy of mutual confidence, through which, on Brazil's initiative, there passed between the two foreign offices an exchange of correspondence whereby the Monroe Doctrine, newly enacted, became the object of our common cooperation. Much has been written about that famous document, but as we construed it, what it really meant was a policy of joint assistance which would safeguard the New World against threatening designs of the autoeracy and colonization by the Old World. It is impossible, from the nature of this doctrine, that it should even remotely suggest either protection on one side or submission on the other, but only an effective action of eventual recourse among equal sovereignties.

The manifestations drawing closer our common ties were such that both nations found themselves united on great questions of continental interest, the latest being the World War. Between Brazil and the United States there have never been rivalries to settle or complicated issues to solve. The single instance which seemed to arise promptly vanished when you returned with interest what the nervous temperament of an agent attempted to take from us. I refer

to it now only because, the second in your international history, this incident honors you exceedingly.

The Brazilian treaty of 1826, as a written understanding, constituted a model in international law. So advanced were its provisions that, nearly a century later, The Hague Conference found them still in the vanguard. We have also taken the same advanced stand in the defense of private property attacked by belligerents. Equally advanced, also, is our doctrine and practice with respect to the navigation of rivers crossing more than one State. In pursuit of the



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ALBERTO SANTOS DUMONT.

Inventor of the dirigible balloon.

same ideals of human justice and peace, we not only have often resorted to arbitration but have gone further, even to the extent of intrusting to each other decisions on paramount questions with third powers. In this connection you can not have forgotten that in the *Alabama* case, the most famous of the many that have been peacefully decided between two great nations, one of the arbitrators was appointed by the Brazilian Government; nor that when in 1880 you had to settle your difference with France, the presidency of the arbitrating court, by your request, devolved upon another Brazilian. We, on the other hand, remember that on two occasions when Brazil had a

difference of opinion with a great friend and neighbor, both questions were settled by the decision of United States Presidents.

On this subject of arbitration you will permit me to say that Brazilian diplomacy claims a most notable record. All our boundary line questions, and they involve all the countries of South America except Chile and Ecuador, were settled by us through direct negotiation, treaty, or arbitral award. To illustrate the importance of some of these boundary questions, I will add that in one case an extension of land more or less equal to Italy was involved; in

another, territory twice the size of Portugal was involved; and in a third, an extension equal to the area of Belgium, approximately. On this subject the president of this society might bear witness. John Bassett Moore, an old friend of Brazil and the pride of your international jurisprudence, now serving international justice as judge of a tribunal which is the hope of mankind and for whose creation Brazil voted, following its invariable precedent in favor of obligatory arbitration.

SLAVERY AND FREEDOM.

To the creation of this atmosphere of mutual esteem and cooperation, the visits interchanged between the two countries have contributed not a little. Among the official visits I will recall at random some that I am sure you have not entirely forgotten. On the side of the United States I might mention those of Elihu Root and Bainbridge Colby, both former Secretaries of State; of William McAdoo, former Secretary of the Treasury—all in their official character—and of Theodore Roosevelt, who crossed the country from south to north.

I recall the welcome that Rio de Janeiro gave to your envoys and also the address delivered by the eldest among them, which was received with emotion by all America and which proclaimed your creed of admitting only the victories of peace, no other territory, and no other sovereignty than your own. Of the beloved Roosevelt there remains the famous message addressed to us on the occasion of the epoch-making continental tour of your cruisers. "The American cruisers," he said, "do not exist for any other purpose but that of protecting peace against possible attempts, and justice against possible oppression. For the United States and Brazil these vessels are not war vessels, but messengers of friendship and mutual esteem between the two great Republics."

Among our statesmen I recall Eptacio Pessoa, our retiring president; Lauro Müller, then Minister of Foreign Affairs; and Pedro II, whose body rests in Brazilian soil, brought home from a foreign land as a last homage. Secretary to Lauro Müller during his official visit, I happen to have experienced the charm of American hospitality, and my admiration for the United States began at this time.

Our Emperor was the only foreign State head present at the celebration of your centennial in 1876; the recollection of him is still alive in the memory of those who met him on that occasion. "With his waistcoat buttoned up to the top," thus a contemporary who for many years enjoyed the pleasure of living among you described him, "with his wide-brimmed felt hat which gave him the appearance of a western farmer, the Emperor of Brazil with untiring activity so thoroughly gained the sympathy of your people that he declined the official honors he was entitled to, preferring instead the

simple demonstration of cordial friendship. Head of a monarchy that had given more than one lesson to some of the most democratic countries of the earth, Pedro II felt entirely at home among you. One American he admired above all others, and that was your Lincoln. As the head of the Government under which Brazil settled the problem of slavery, Lincoln, to him, personified the victory of liberty over slavery."

Brazil also held slaves and suffered accordingly from this unequaled sore on the body politic. An American, George Bryan, called slavery the shame of America; our Ruy Barbosa described it as the poison which was slowly killing Brazil. The one great difference between Brazil and the United States, with respect to this curse was that you solved it with bloodshed while we accomplished it peacefully. The pioneer in this humanitarian campaign in the American Continent, you set the example and furnished the strength that fortified us. Speaking in America on February 12, 1906, on the world influence of Lincoln, Joaquim Nabuco said: "To Lincoln especially, Brazil and Cuba owe the fact that a great new power was not created in North America 40 years ago, having African slavery for its fighting spirit and the principle of its national expansion. On the other hand, we, like the other American countries, owe it to him that the leading country of our continent became a wholly free nation, settling definitely in that way the true character of American civilization."

Lincoln is the greatest figure in United States history because he was the hero and martyr of this titanic reaction which he won by dying. "Thanks to him, you, the Americans," still quoting Nabuco, "have no longer two national allegiances—the State and the Union, nor two fatherlands—but only one, and this the greater of the two. You no longer contemplate the possibility of the greatest of national bodies disintegrating, by secession, into dozens or hundreds of particles. Those who imagined that, as in the Greek legend, the irreconcilable brothers would fight until they exterminated each other beheld, instead of that tragedy, the fraternal embrace of the Blue and the Gray. They beheld the South, soon after the war was over, counting anew the stars of the old flag to make sure that none were missing. Such a union as this could never have been forced upon Americans by conquest, and the colossal civil war only showed to the world, as nothing else could have shown, the indestructibility of your national cohesion."

COMMERCIAL AND ECONOMIC OUTLOOK.

I have expressed in the foregoing the public opinion of my country, through one of its most beloved sons, with respect to the greatest disaster which ever befell you. Nabuco, with Rio Branco, is the highest



THE YPIRANGA MUSEUM.

The Ypiranga Museum stands on a commanding site, its entrance stairway on the precise spot where Prince Dom Pedro stood when he proclaimed the Independence of Brazil on September 7, 1822. This building houses a very fine collection of historical relics and museum of natural history.

representation in the past of the international thought of Brazil. They both embody the traditional tendency of my country in its policy with the United States—the former in the direction of international affairs during more than nine years, and the latter as his faithful Envoy among you. They both foresaw the destinies for which we were reserved—you, the elder by about 50 years; we, the younger, just entering the pathway already trodden by you for half a century.

A glance at the geographical position of Brazil and a review of our natural assets will disclose a rather remarkable coincidence. Your immense coast line on three seas is about the same in length as ours bordering on one. Brazil possesses the two largest rivers and the largest fluvial basin in the world. In the matter of climate we have all gradations,—cold, warm, temperate—ours more to the Equator, yours more to the pole, but both appropriate to all forms of culture. Within the limits of each, the wealth of the soil, the riches under the surface, the fertility of the fluvial valleys, and the beauty of nature are boundless. The same perspective of mountains, the same vertebral axis, explain our common orography. Brazil, like the United States, occupies the major portion, if not half, of the continent to which it belongs, the one in the north and the other in the south. Last and not least, it was the creative impulse of the pioneers in each,—the daring spirit of those who carried the national boundaries to the far westward—in the north across the Rockies and Sierra Nevada to the Pacific, and in Brazil, through the Bandeirantes—to whom is largely due our actual enormous area. Your Daniel Boone finds a kindred and matching spirit in our Fernão Dias Paes Leme.

In considering our respective privileges with regard to location and resources, you will note that although these are parallel, they do not compete with or duplicate each other. Here you perceive the true economic character of each, with respect to physical conditions, as to which we are only beginning to spell out the lessons to be derived therefrom. We already produce in Brazil an infinite variety of commodities indispensable to the United States, and we are capable of producing twice and even thrice as much. You, on the other hand, have in your soil and in your factories the fundamentals of all that we need in our daily existence. Without the manganese of Brazil, for instance, your steel plants would close down, while without United States steel we should not be able to develop the policy of material progress which is our present objective.

It is only by taking advantage of these conditions that the true commercial policy of the two countries will be found. It may be added, that commercial currents, although long existing between Brazil and the United States, began to respond to proper direction only a few years ago. It needed the European war, breaking off, as it did, and suspending the commercial currents of the world, to



BOTAFOGO BAY AND THE MOUTH OF THE HARBOR, RIO DE JANEIRO.

enable Brazil and United States, good friends during 100 years, to discover just what a wealth of riches they represent each to the other. You well know that the year 1921, although exceedingly critical in the matter of export and import returns, revealed a remarkable progress in the enlargement of mutual knowledge and business education, including the extension of the submarine cable and the shortening of steamship itineraries. In spite of this, the United States bought from Brazil a scant \$96,000,000 worth of goods of the 2½ billions paid for its foreign purchases, selling us but 59 millions of its total foreign sales, valued at 4½ billion dollars.

You well know, also, that, in return for the free entrance allowed some of our products—the principal among which is coffee—Brazil reduced its tariff rates on goods imported from the United States in a proportion ranging from 20 to 30 per cent. But we have not yet taken full advantage to the extent of our commercial needs, of the advantages offered by this old fiscal understanding. The United States at present buys two-thirds of our coffee, half of our cocoa, one-third of our hides and rubber, almost nothing of our very rich vegetable oils, completing her purchases of these commodities from other points in Asia, Africa, and Oceania to supply the remainder of her needs, the latter being the largest in the world for nearly all commodities named, and continually increasing. Similarly Brazil receives from the United States but half of the coal it needs, one-third of the petroleum and cotton, and only a small portion of the wheat needed for consumption; and if during the war the articles of United States manufacture amounted to 45 per cent of our supplies, or thereabout, they do not now reach even 25 per cent. Is it not clear, therefore, that an economic understanding should be reached which would link our two peoples, economically, as they are already linked politically? No small share of the credit we need you are already beginning to extend. Out of the \$158,000,000 loaned to South America during 1921, more than half was invested in Brazil. But this is only a beginning, and you may easily judge of the possibilities, when it is recalled that the American capital invested in my country represented, two years ago, according to your own figures, only a seventh of the Belgian investment, which in turn was only half of the French, which again was only one-quarter of the British and Canadian, both the latter being calculated at about \$1,200,000,000.

In this connection it has already been brought to your attention by the Brazilian ambassador in Washington, A. Cochrane de Alencar, that the most important part of the investment is not the actual return in dividends, but the commercial expansion that it brings forth, although Brazil can be safely trusted to multiply the money employed in its industrial enterprises. We also need immigration. While 33,000,000 immigrants landed in the United States during the last



ECONOMIC MAP OF BRAZIL.

(Prepared by the Executive Committee of the Centennial Celebration.)

The imports of Brazil are divided by the customhouse into four general classes, as follows: live animals, primary materials and materials used in the arts and industries, manufactures, and alimentary substances. The leading exports include: coffee, sugar, rice, cotton, frozen and chilled meats, hides, cacao, rubber, yerba mate, skins, manganese, tobacco, lard, timber and lumber, Brazil nuts and carnauba wax.

century, we in Brazil received only three and a half million. Agriculture must also be equipped with all kinds of necessary implements throughout a territory almost equal to that of Europe, in which only one-twentieth is tilled. Waterfalls must be harnessed and transformed into the power which will turn countless wheels. Of the 50,000,000 potential horsepower now existing in Brazil, only 1 per cent is exploited. Over 3,000,000 square miles of area await the connecting line of the railways, which amount now to a total of only 18,000 miles, but which will surely one day reach the 250,000 miles



POWER AND LIGHTING PLANT OF SÃO PAULO, BRAZIL.

This power station is near the historic city of Parahyba, 33 kilometers from the city of São Paulo. The rapids of the Tietê River furnish the electric supply for the capital. In a distance of less than half a mile there is a fall of 33 feet, and the São Paulo Tramway, Light & Power Co. has built large reservoirs by means of which electric generators are worked, and thus the power for the electric car system, as well as for the lighting of the city, is very economically secured.

that cover your 48 States. In this Centennial year of Brazil's Independence which we celebrate, with your and the world's cooperation, consider well what awaits American initiative and enterprise.

CONCLUSION.

Like all other nations, Brazil has its faults, but as between these and her finer qualities you have already noticed which prevail. A new country, whose growing industrial power already equals half of that of all South America, whose natural forces are just entering the road to development, whose cities are still to be built and whose plants are still to be erected, it becomes now and then the target for the criticism if not the satire of disgruntled tourists and hurried or

unsuccessful salesmen. "Back from Hell" would seem to be the title covering the account of a certain trip to the land of the Southern Cross. Another recent account of a hasty trip between the western border and the capital of the Amazonas qualifies Brazil as the worst country in South America. But you know how we take such snap judgments and temperaments mistaken and incompetent rather than intentionally mischievous, and we are fully aware of your own verdict with regard to them. Should, however, they be taken seriously and prevail, that beautiful thing among men of different race known as cordiality would perish from the face of the earth. A country is valued for its history, its spirit, its contribution in men and material to the current of destiny. It is in this wise that Brazil and the United States,—two peoples bound by an indissoluble friendship—will make use, increasingly, of their strength and wealth, not only for their mutual benefit, but also for the good of humanity.



THE EXECUTIVE MANSION, BELLO HORIZONTE.

THE FUTURE OF BRAZIL

By DR. MANOEL DE OLIVEIRA LIMA

Former Minister of Brazil to Japan, Sweden, Belgium and Venezuela; Member of the Brazilian Academy of Letters.

BRAZIL celebrates this year the first centenary of her complete independence, of the full establishment of her rights as a sovereign state; but we may say that Brazil was, from 1808, when the Portuguese court was removed to Rio de Janeiro, the leading part, as it was already the most important one, of the Portuguese



Photograph by Harris & Ewing.

DR. MANOEL DE OLIVEIRA LIMA.

Former Minister Plenipotentiary.

monarchy. Under the enlightened rule of King John VI the new American nationality was organized, its administrative structure built along the lines of an autonomous destiny, and its political and social life endowed with a sense of responsibility. From 1816 to 1822 there existed a united kingdom under a common government head, that is, a personal tie binding the two countries. When the latter came to a definite separation, Portugal remained attached to the old system of alliances and balance of power, which had made of the old and glorious Kingdom a satellite of England, and Brazil entered the New World

system, which is bound to rest on solidarity and cooperation.

The trend of the political development of the New World has such aims that its character appears at the end of a century of independent life much more peaceful than warlike, because peace was, so to say, helped by nearly every circumstance. Enmity and interstate conflict, where appearing in America, are but the reflection of long-

standing and bitter European struggles arising from racial, religious, and other causes which, beyond the seas, tend to cool down and finally vanish. Spanish and Portuguese distrusted each other, although peoples of a common origin, yet this distrust never originated a clash in the New World, except on the left bank of the River Plate, and here only because of the expansion of the colonies of both nations which, starting at the coast and spreading to the hinterland, assumed a threatening aspect. But even so; diplomacy by that time was sufficiently master of itself to intervene and to dictate a conciliatory issue. It is also true that hostilities took place in a limited area from the Colonia do Sacramento up to the Island of Santa Catharina, but in the vast interior of the Southern Continent the abiding line between the activity of the two peninsular nations was drawn by the treaties of 1750 and 1777, although they were never executed.

The result is that all the boundary questions between Brazil and her neighbors were solved by arbitration, when not by direct negotiation, the recourse to war never occurring. Nevertheless feeling was sometimes uncompromising, and Brazil had boundary questions to settle with each one of the nations of South America except Chile. The unity of the Brazilian Empire, in opposition to the fragmentary constitution of the neo-Spanish Republics, was one condition more which fostered the status of peace in this section of the New World. Brazil, owing to her monarchical institutions, was, in addition to her enormous size, suspicious of the Spanish Republics, but the Empire was not strong enough to impose its will and, on the other hand, its eventual opponents were endowed with a spirit of resistance to foreign humiliations. So it was that, notwithstanding the advantage derived by Brazil from the occupation of Montevideo and what to-day is called Uruguay—then called the Cisalpine—the Empire could not extend its dominion in a permanent way to its so-called natural boundary and assert its authority over the estuary of the River Plate.

The United Provinces of the River Plate were, on their side, unable to benefit from this state of affairs by reconstructing in its integrity the viceroyalty of Buenos Aires, which would have created another empire on the eastern coast of the South Atlantic. Uruguay stood, therefore, not only as a buffer State, but as the basis for a political equilibrium in a period of national formation, during which passions of a patriotic color were easily inflamed. Not even to-day have such passions disappeared, but a more definite and sound conception of right has modified them.

The climate, the nature of production, the national activity, the abundant foreign immigration have all favored Argentine development and raised the Argentine nation to what it now is—a powerful country, emulating the Brazilian union. Emulation does not mean rivalry, and there exists for this last no reason, not even the

slightest, as the majority of the articles of commerce from each are different. International speculators, helped unfortunately by national agents, are trying to transfer to Hispanic-America the odious commerce in arms which the impoverished condition of Europe renders difficult over there, making money out of the weapons piled up in the arsenals—weapons which would be useless in the next war they dream of, as newer and more destructive engines will by that time have been designed and manufactured.

In pursuit of their hateful aims, they hire mercenary pens, and intrigue in the various countries, making the greatest use of the word "hegemony," so suggestive to the imagination in general. It



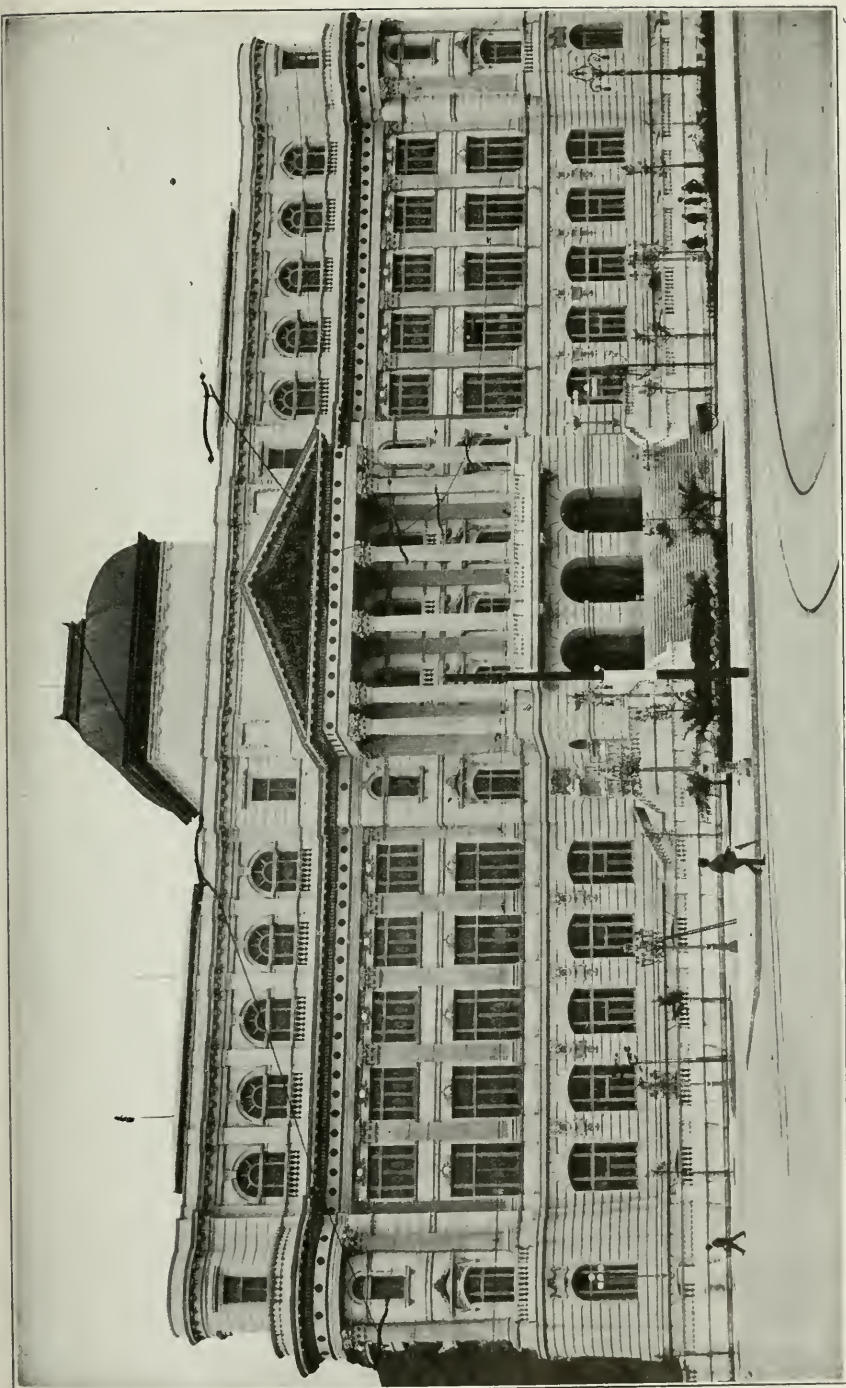
SYLLOGEU BRASILEIRO.

Home of the Brazilian Academy of Letters, the Institute of Brazilian Lawyers, the National Academy of Medicine, the Brazilian Historic and Geographic Institute.

is a word that I should like to see banished from our political vocabulary and replaced by the expressions of harmonious and cooperative progress which the United States has specially fostered.

Not only the future of Brazil, but the future of the continent, depends essentially on peace, on the maintenance of cordial relations amongst the American nations. The causes of misunderstanding in the past have happily been removed one by one, in many cases through arbitration, and the good offices of the United States Government are going to bring to a conclusion, surely satisfactory to both parties, the long standing and irritating question of Tacna and Arica which, while not reasonably other than local in character, might easily be converted into a more extended conflict under the influence of elements availing themselves of plot and disorder in order to carry out their purposes.

Internally, the future of Brazil presents bright features which contribute to an optimistic forecast. Her resources are proverbially great, and are on the way toward successful exploitation. There are, so to say, no domestic contentions, either religious or racial in character. In no country are religious matters treated with greater



THE NEW PUBLIC LIBRARY AT RIO DE JANEIRO, BRAZIL.

This is one of the latest of the many handsome public buildings which have been erected in the Brazilian capital. It was recently completed and the contents of the old library have been installed in the new one. The building is modern in every respect and has a capacity of a million volumes.

tolerance than in Brazil, and nowhere else is the distinction of color less marked. The large black population which Brazil owes to slavery is gradually disappearing—in the southern States through the action of European immigration; in the northern ones, where white colonization is very limited, by itself, through miscegenation, which thus proves to be a sociological factor of no mean value.

Brazil on the declaration of her independence made the mistake of preserving slavery, but the problem was solved in a legal and peaceful way by a succession of measures which first abolished the traffic, then declared free-born all children of slaves, and finally put a complete end to this abhorrent institution, by granting liberty to three-quarters of a million of slaves. Brazil celebrates the Centenary of her life as a nation with all creeds and all citizens equal, in the true spirit which de Tocqueville hoped to see inspiring American democracy.

Brazil certainly owes her constitutional development—not only her political unity—to the monarchical institutions which were hers from 1822 to 1889. No country, not even in Europe, with naturally the exception of England whose representative system was the model for all others, had a truer conception of parliamentary life. The national sentiment expressed by this form of organization was, however, an acquired one—that is, it did not exist in the beginning, Brazil starting her move for independence by an association of the capital, Rio de Janeiro, and the Province of São Paulo, which, promoted by José Bonifácio de Andrada e Silva—a scientist who became a statesman—was joined successively by Minas Geraes, Rio Grande do Sul, Pernambuco, and the lesser Provinces. Bahia became the ground for a struggle which lasted nearly a year after the proclamation of the independence, while the extreme north, the vast regions of the Amazon and its tributaries—the State previously called Pará Maranhão—was only won by the effort of the new imperial navy.

Federation was then a magic word in America, but it greatly hampered the union of the Empire, which was able to withstand propagandas, political crises and armed revolutions, to transmit to the Republic, which acknowledged and sustained the federative principle, a nation really united and conscious of her destiny.



BRAZIL AS A FIELD FOR FOREIGN INVESTMENT

By KERMIT ROOSEVELT.

THE centennial anniversary of Brazilian independence will be celebrated next autumn, and it becomes all good Americans to join in the rejoicings of the Southern Cross Republic. There are many and close ties between the Brazilians and ourselves. They have remained our friends when some of what are known as our "Yankee" characteristics have antagonized others of the South American Republics.

The Brazilian prides himself, and justly, too, upon his tolerance, and his emphasis of the personal equation. In Brazil there is complete religious liberty, and a Brazilian is ever ready to pass over the individualities and idiosyncrasies of a foreigner, while at the same time cheerfully admitting himself as the possessor of characteristics which may appear equally undesirable to the aforementioned foreigner. This genuine broadmindedness and good fellowship is most captivating. Those of us who have been fortunate enough to know such Brazilian representatives in this country as Joaquim Nabuco, da Gama, and Cochrane de Alencar will readily understand. Joaquim Nabuco was a close friend of my father, and one whom he held in warm affection and esteem, and with whom he delighted to discuss literary as well as state affairs.

Brazil entered the World War at our side and almost simultaneously; and it is fitting that there should be raised in our country a subscription to send to Rio de Janeiro a statue to commemorate the one hundredth anniversary of Brazil's independence. Mr. Charles Keck, a pupil of Augustus St. Gaudens, has designed the statue, and one of the vessels of the Kerr Steamship Lines, the company with which I am associated, is to have the honor of carrying the statue to Brazil.

All this may seem to have little to do with the subject upon which I have been asked to write—"Brazil as a field for foreign investment," but in reality, to my way of thinking, it is exceedingly germane to it, for I would not personally wish to invest in any country that was hostile to my country, and the desirability of a field for investment increases in direct ratio with the friendliness of the inhabitants of that field. If there is a feeling of hostility toward the



PORT WORKS OF RIO DE JANEIRO IN 1916.

individuals or the native land of the backers of an enterprise it is more than apt to react seriously upon its commercial success. In no place would this be more true than in Brazil, for the Brazilians are warm friends, and are willing to evidence their friendship, even in commercial matters, when it may prove to their own pecuniary disadvantage.

Physical conditions in Brazil are more readily understandable by an American than by a European. There is no more homogeneity there than in this country; perhaps less. The differences between Florida and Maine or Arizona and New York are no greater than those between Rio Grande do Sul and Amazonas, or São Paulo and Ceará. The inhabitants of the various parts of the country are



THE "THEATRO DA PAZ," BELEM, PARÁ.

equally distinct, and a Connecticut Yankee is no more unlike a Georgian than a Mineiro is unlike a Paraense.

The first settlements in Brazil were along the coast from Pernambuco down to Santos; and originally the wealth of the country centered about Recife and Bahia. Great sugar plantations abounded, and together with cocoa and tobacco formed the principal resource. Pernambuco was coveted by other nations, and in the early seventeenth century the Dutch wrested it from the Portuguese and held it for a number of years. The Dutch fortifications are still to be seen protecting the harbor. At an earlier date the French were in possession of Rio de Janeiro and an interesting contemporary account of their settlement there may be found in Jean de Lery's narrative.



THE RUBBER INDUSTRY OF THE AMAZON.

Top: Left, tapping a rubber tree; right, a boatload of rubber arriving at Pará. Center, foliage of the great rubber tree of Brazil (*Hevea brasiliensis*). Left, cutting the rubber or "pelles" before grading and shipping. Right, cargoes of rubber waiting to be unloaded at Pará.

Hardy bands of adventurers soon began to penetrate further and further into the interior and before long gold and diamonds were discovered in Minas Geraes, which, as its name implies, is the great mining state in Brazil. In addition to the precious metals and stones, large quantities of iron and manganese ore have been exported from that State. The capital of many of the mining companies is English, but the United States Steel Corporation owns vast stretches of ore land.



A FINISHED BALL OF RUBBER.

This ball weighs nearly 125 pounds, partially supported by Sr. Commandante Agapito Pinto, commander of the Brazilian outpost of Frontier Guards (right) and Sr. Carlos Gregorio, protector of the frontier of Venezuela (left).

The Paulistas, as the inhabitants of São Paulo are called, were explorers and adventurers par excellence. They sallied forth in groups and, as "Bandeirantes," spent years in the far interior, searching for Indians to enslave or mines to open up. When the Jesuit missions in Paraguay began to interfere with their raids, they wiped out the missions one after another. The Bandeirantes were sometimes as many as 3,000 strong, and were gone for years at a stretch. Antonio Raposo, a famous Bandeirante, eventually went straight across Brazil to Peru and the Pacific Ocean, discovering the headwaters of the Amazon on his return. Parkman could have written a most absorbing history of these adventurers; for hardi-



Photograph by W. J. Lavarre.

MANÁOS, STATE

The T-shaped floating docks which rise and fall with

hood, daring, and resource they have not been surpassed in any age or country.

In the early days, therefore, the Paulistas were explorers and adventurers, for it was not until the first quarter of the eighteenth century that coffee was introduced into Pernambuco, and it was a century later before it had found its way south and was being cultivated in any quantity in São Paulo. To-day the State is the great coffee center of the world, and in addition is practically the industrial center of the country, with more than 350 factories in the capital city.

Brazil has so many strings to her bow that it is hard to imagine any series of events which would materially retard her growth. The development of the rubber plantations in the Straits Settlements was a heavy blow to the upper Amazon. Manáos, situated 1,000 miles from the mouth of the Amazon, in the height of the rubber boom was gay and wicked and mundane and extravagant, as no mining town of Alaska, the United States, Australia, or South Africa has ever been. Situated in the midst of the jungle, it was the greatest diamond market in the world, and the "Isle of Consciences," where everyone was supposed to leave his conscience before arriving at the city, was ever overstocked. Even to-day, although its glory has in a great measure departed, it remains a remarkable city to find so situated among the wild untamed jungle, distant from anything that may be dignified by even the title of village. Brazilian rubber



OF AMAZONAS.

the river. They are joined to the land by giant hinges.

can not be equaled, and the only pity is that some portion of the vast fortunes that were made during the boom days were not expended in developing the upper Amazon hinterland and diversifying her resources. The north bank of the Amazon around Obidos is potentially a very wealthy cattle country, and when it is properly stocked the price of living in Amazonas and Para should be materially reduced. It is undeniable that the Amazon region has had a serious setback, but this has had no perceptible effect on the rest of Brazil, and even the local disaster will be righted by the normal growth and development of the country.

A great deal of money is inevitably lost in developing new countries. for there are many enthusiasts who are able to persuade other potential enthusiasts that any wilcat scheme of theirs will prove a Golconda. Even a rudimentary knowledge of the country in which his money was to be invested would have saved many an investor's capital. In opening up virgin territory through such enterprises as the Madeira Mamoré Railroad the chances of loss are obviously greater than in building street railways in a thriving industrial center such as the city of São Paulo. If the investor realizes this and goes into the speculative proposition with his eyes open, all is as it should be, but it does not work out to the benefit of any country to attract capital for enterprises that have been misrepresented and misunderstood.

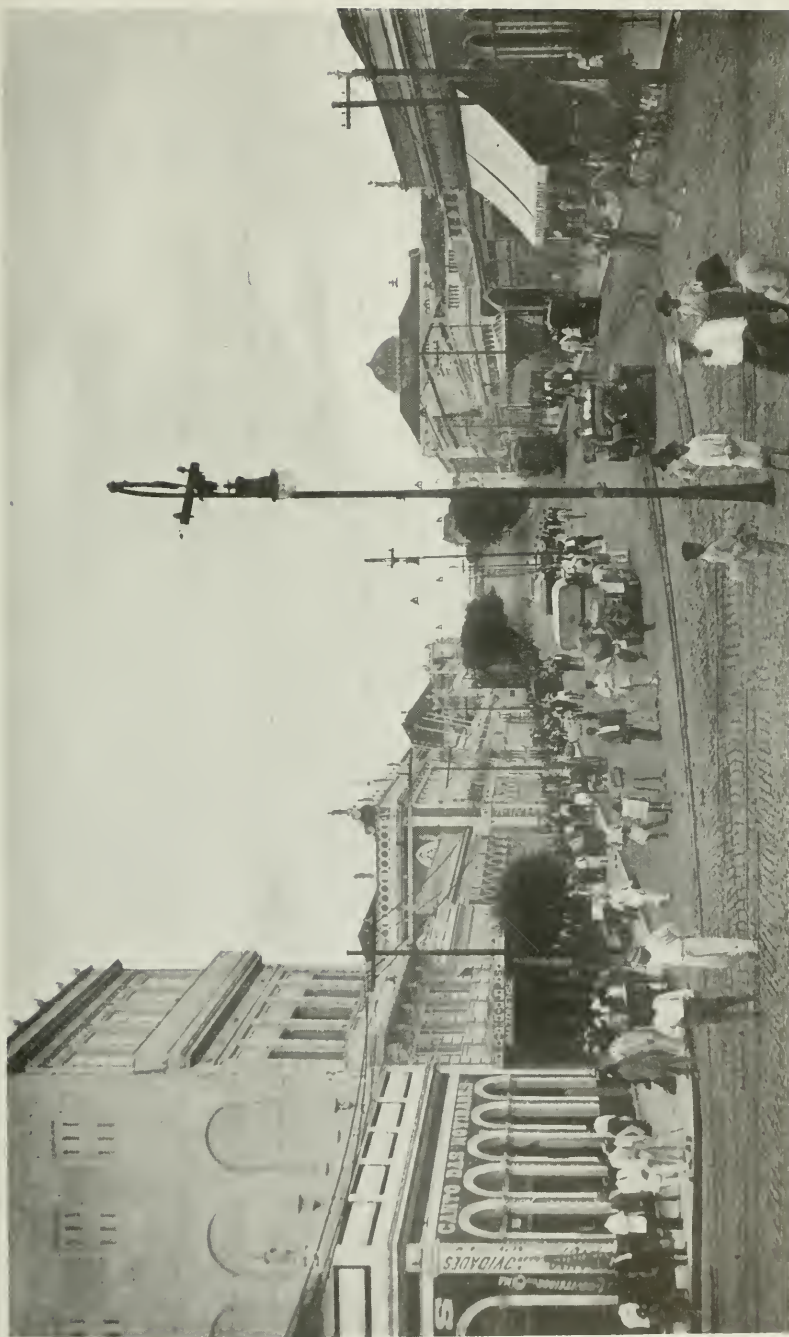
Americans until recently took very little interest in foreign investments, for their own country was so largely undeveloped and offered

such numberless opportunities. France and England have invested more in Brazil than have any other countries. Germany, in spite of the large and prosperous German colonies in the States of Paraná, Santa Catharina, and Rio Grande do Sul, has invested comparatively little money in the country. French capital has gone to build many of the railroads, such as the Auxiliaire in Rio Grande and the Noroeste in Matto Grosso, as well as port works and sugar plantations. English capital has built up railroads, traction companies in the different cities, coffee fazendas, and cattle ranches. As yet American capital has played but little part in the development of Brazil, although many of the railways, traction companies, and cattle ranches have been handled by Americans. Since the start of the World War a certain amount of Brazilian municipal and State financing has been done in this country, and the large packing houses of Chicago have put up plants or bought control of plants already existing. A number of American banks have opened branches in the chief Brazilian cities and they offer every facility for information to Americans who contemplate investing their money in Brazil.

I can imagine no more pleasant way of spending a vacation than in wandering about Brazil. An interesting itinerary could be followed by taking ship to Manáos, and then transferring to a river steamer for Port Antonio, which lies at the head of navigation on the Madeira River. A brief time in the rubber country and a trip out on the Madeira Mamoré Railroad—a remarkable undertaking, which, after many failures, was eventually put through by our compatriots—would delay but little the return to Pará. From Pará there run the excellent coasting steamers of the Lage Company. The engineers are Scotch and the captains usually English. They touch at many ports, and give a passenger sufficient time to wander about the colorful tropical cities that are the capitals of the smaller of the northern States of Brazil. If I were making the trip and took a particular fancy to any town I should drop off the boat, and wait for the next steamer. It is a mistake to bind one's self down to definite days and hours, for it is only in our imagination that a few days one way or the other makes any difference.

The coasting trip should be broken at Rio, and the traveler would wish to stay there as long as possible before continuing on down the coast. When he reached Rio Grande do Sul, he should return by train to São Paulo, and thence cross over on the Noroeste Railroad to Corumbá and go down the Paraguay River to Asunción and Buenos Aires. Such a trip would give one a very excellent idea of what Brazil means, and the specialist could follow his own line of study, whether it were mining, or sociology, or traction, or ethnology.

The latter study is particularly interesting in Brazil, for, although there are not so many races mingled together as in our own country,



MANAÓS AVENIDA EDUARDO RIBEIRO.

the Indians have not died out nor been exterminated as they have here, and they form an important element in the population. Gen. Rondon, the great Brazilian explorer, who has done so much in opening up the interior wilderness of his country, boasts of a large percentage of Indian blood.

The Amazon country is largely settled by people of Portuguese descent, and there are but comparatively few negroes to be seen.



CABÚCU DAM, SÃO PAULO.

It's an ill wind that blows no one good, and the fearful droughts that laid waste the State of Ceará, destroying both man and beast, nor sparing even the wild game of the forest and field, drove many of the families that escaped to settle in the Amazon country. The back-woodsmen of Ceará—*matutos* is the Brazilian term—are a hardy lot, small wiry men, able to undergo great physical exertion, while sustained by a scanty larder.

Bahia is the center of the black belt of Brazil. It was thither that Africans were imported in greatest quantities to work on the tobacco and sugar plantations. Many travelers who touch at Bahia on one of the trans-Atlantic steamers judge by local conditions and greatly overestimate the proportion that negroes bear to the population of Brazil. The same mistake might be made by a visitor to this country



PORTO ALEGRE. CAPITAL OF RIO GRANDE DO SUL.

were he to touch only at New Orleans or Mobile. In Brazil the geographical situation is reversed, and it is in their southern States that there are fewer negroes. I have often heard it held that negroes do not thrive and indeed die out in the southern part of South America. It is said that they are unable to stand the climatic conditions. To us who have been accustomed to see negroes all over our country, even in the sections where the winters are most rigorous, this would seem an untenable theory, but the fact remains that there are practically no negroes to be seen in Buenos Aires, and yet there used to be many there during the slave days, and there is no visible reason why there should not be many there now, as anyone who has wandered about the Harlem district in New York will agree.

The country that has made the greatest numerical contribution in immigration to Brazil is Italy; and the Italian colonists have prospered, forming to-day a large percentage of the inhabitants of the city of São Paulo. The Portuguese come next in numbers, with the Spaniards third and the Germans fourth. After the close of the Civil War there were founded several colonies of southerners who wished to migrate to a country where they could still possess slaves. None of these groups prospered, although individual families here and there did, and I have had working for me at various times descendants of these colonists.

Of recent years there have been several successful Japanese colonies—one of them close to the site of an American colony which failed. The Japanese are meeting with more success, both because the attempt was better planned and the colonists are more suited to cope with existing conditions. The Americans had not been accustomed to manual labor and were without the means for purchasing slaves, whereas the Japanese have set to work to build up rice plantations, a product for which the country is suited, and in the cultivation of which they are skilled.

It is impossible in so short an article more than briefly to outline the outstanding characteristics of the Brazilian Republic, and I shall have totally failed in doing even that, if I have not impressed upon the reader my own strong belief in the happy future that lies before Brazil and the promise she holds out to those who, after a reasonable and judicious study of the situation as it applies to their own interests, determine to be partakers in her development and the rewards it will bring.





Photograph by Bippus.

AVENIDA NIEMEYER AND GAVEA MOUNTAIN, RIO DE JANEIRO.

THE UNITED STATES IN THE BRAZILIAN CENTEN- NIAL CELEBRATION ∴ ∴

THE INTERNATIONAL EXPOSITION AT RIO DE JANEIRO,
SEPTEMBER 7 TO MARCH 31, 1923.¹

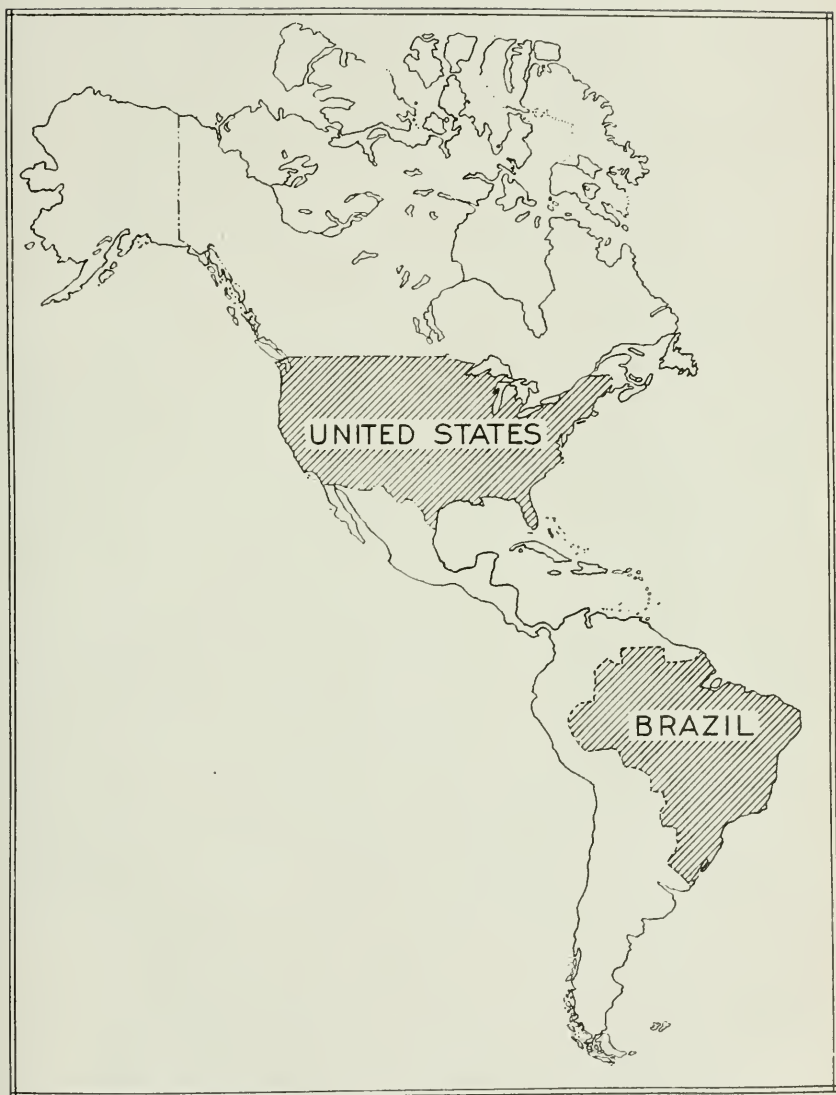
BY SEBASTIAO SAMPAIO,

*Brazilian Commercial Attaché for the United States, with headquarters at the Brazilian
Embassy, Washington.*

MR. TOASTMASTER, ladies and gentlemen: Our distinguished toastmaster and my dear colleague, the Brazilian consul general, Mr. Helio Lobo, have already informed you how we will tour the United States, the American Deputy Commissioner General, Frank A. Harrison, and I, in the interest of the Brazilian Centennial Celebration and of your participation in it. We are just about to start on our visit to 120 American cities—to every city of over 50,000 population. That you realized perfectly that we should visit New York as the starting point of our campaign, I can well understand by the significance of this splendid banquet. By receiving us in such a manner, I perceive that your purpose is not only to give my country a most cordial demonstration of friendship, but also to impress the United States as a whole with your warm affection and sincere interest in Brazil. And at the beginning of my remarks, I must thank you in behalf of my Government and in behalf of my people, not only for your kind feeling, but for the great service you render us by calling the attention of your Nation to the celebration this year of the first century of Brazilian independence.

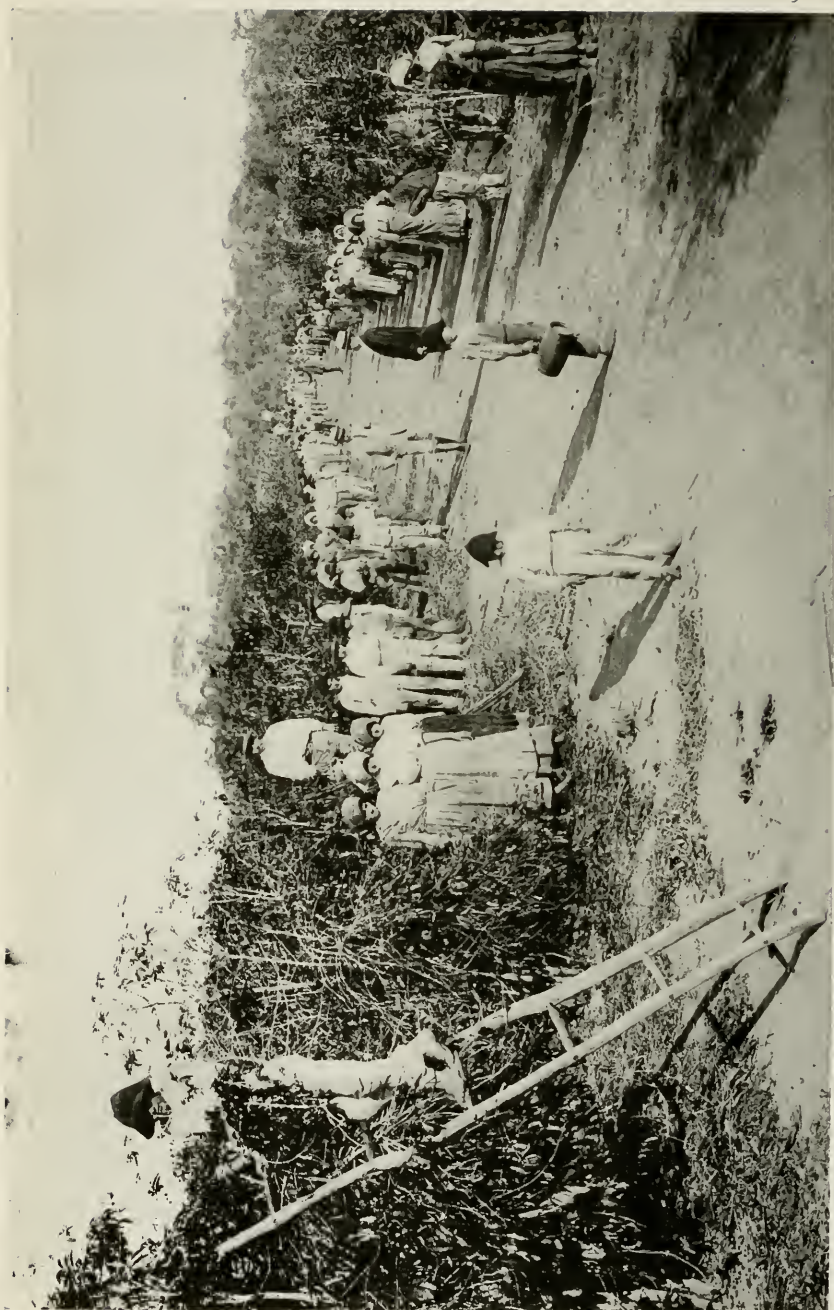
Turning now to my subject, I must say that the American Deputy Commissioner General Harrison honors me when he requests that I, in person, shall deliver to each city included in our trip the message

¹ At a luncheon at the Hotel Astor, New York, March 15, 1922, offered by 400 business men of New York City under the auspices of the Brazilian Chamber of Commerce, to inaugurate the tour of the United States by the Hon. Sebastiao Sampaio, Brazilian Commercial Attaché, and the United States commissioners to the Brazilian Exposition Hon. Frank A. Harrison and Mrs. Arthur Livermore, in the interest of the Brazilian Celebration.



MAP OF NORTH AND SOUTH AMERICA SHOWING AREAS OF BRAZIL AND THE UNITED STATES.

(Mercator's projection.)



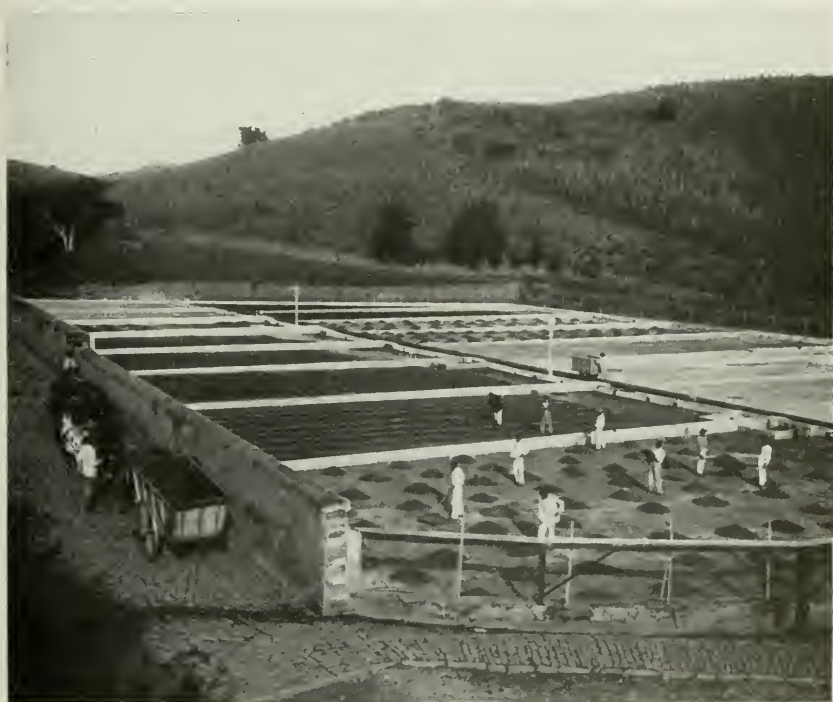
Copyright by Brown & Dawson and E. M. Newman.

PICKING COFFEE BERRIES IN BRAZIL.

The above picture shows the coffee pickers engaged in gathering the harvest in a small section of one of the large Ribeirão Preto plantations. Some of the "fazendas," or plantations number by the hundred thousand, and when the harvest begins—usually in May—hundreds of skilled "pickers" are employed in gathering the berries. When ripe the berries look much like large very dark cherries. Each of the berries has in it two seeds, turned face to face, i. e., the flat sides toward one another, and these seeds become the coffee beans of commerce.

that constitutes the principal purpose of our visit. This message comes from my country. It is, to-day, a formal and cordial invitation to the great and proud city of New York, to send next September to Rio de Janeiro a large delegation of its citizens to attend, as representatives of the largest metropolis of the world, the Brazilian International Exposition and all the other features included in our First Centennial Celebration.

From whom does this invitation come, ladies and gentlemen? From Brazil, from its President, Dr. Epitacio Pessoa, the great statesman who visited your country, in person, shortly after his



DRYING COFFEE.

election three years ago—an old and sincere friend of yours; Brazil, the foreign nation that has so often participated in your expositions; Brazil, which took part in each of your eight greatest international exhibitions, spending for that purpose alone over \$3,000,000; Brazil, the only foreign nation which in 1876, to your first centennial in Philadelphia, sent its Chief of State, its Emperor, Dom Pedro II, at a time when the Kings of Europe were still somewhat fearful of visiting democracies like the United States; Brazil, which sent to Delaware Bay the only foreign battleship that on July 4,

1876, saluted the American flag together with your Navy; Brazil, which sent to Washington its first diplomat or minister immediately after its declaration of independence; Brazil, the first to thank you for the Monroe Doctrine by offering an alliance with the United States a few months after the famous message of President Monroe; Brazil, which is proud to be your oldest friend in Latin America—your friend in peace and your friend in war; Brazil, which entered the Great War but a few days after you, because, as set forth in the message of President Braz, with our elder brother, the United States, at war, it was impossible for Brazil to remain neutral.

I am sure, by the way you receive us, that you have in mind all these proofs of our affection for you. And I am equally sure that you will accept the invitation of Brazil.

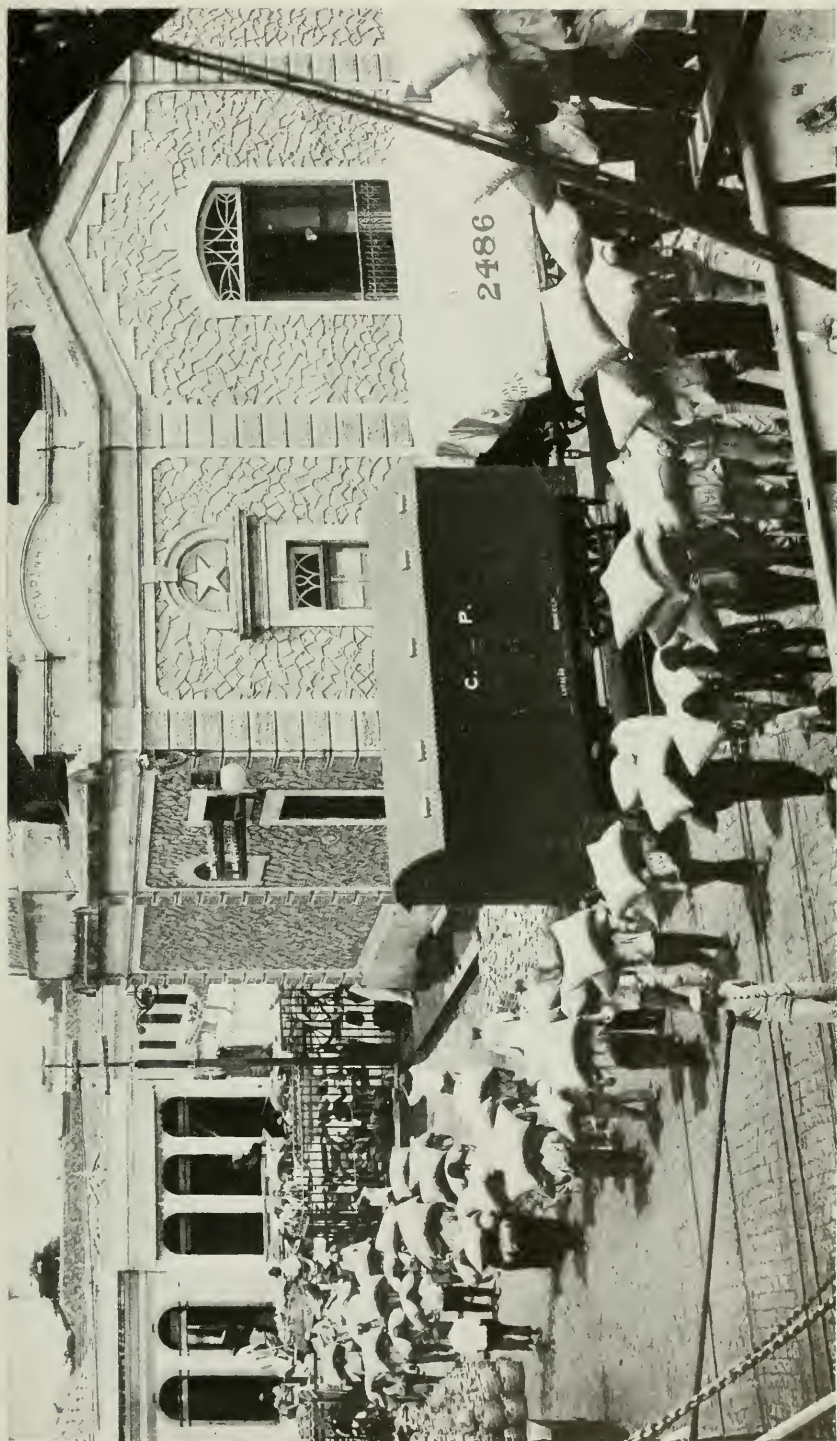
Perhaps you are already aware that our Centennial propaganda in the United States is the most extensive we are making outside of Brazil. This is a true statement of a fact for which we have every reason.

Returning last week from my recent trip to Brazil, a distinguished American gave me, in eight words, his impression of my country: "It is another United States in the making," he said. And here you have the reason why we want you to go there this year, with all your interest, with all your power, with all your friendship—because we need your kind and fraternal presence at this moment when we are promising the world that Brazil will repeat in South America, within the next 50 years, the marvellous nation-building accomplished in North America during the last 50 years.

This historic Brazilian hour corresponds in responsibility to your historic hour in 1876.

Like you in '76, Brazil has to-day all the opportunities that could be desired, all the potentialities of which we could ever dream. Brazil's area alone represents one-fifth of all the Western Hemisphere, one-half of South America, and it is actually 200,000 square miles greater than the United States. Our boundaries touch every country in South America except Chile and Ecuador. Our Atlantic coast has an extension of 6,000 miles. Forty-eight per cent of our territory is composed of forests, three-fourths of which is hard woods of all kinds, suitable for all purposes. Brazil has 25,000 miles of navigable rivers, including some of the largest in the world—so large that a single island in the Amazon River has an area greater than Belgium or the Netherlands. We have, also, the largest reserves of water power in the world, the largest deposits of high-grade iron ore, which are closely estimated at almost four billions of metallic tons.

As to the use we are making of this great land of Brazil and its resources, I shall merely say that we are doing our duty, and that you have no cause to be ashamed of your brothers of South America.



LOADING COFFEE ABOARD SHIP AT SANTOS, BRAZIL.

Now let us compare, for a moment, the world, and particularly the United States and Brazil, with respect to the growth of population since 1822, the year of our independence, 100 years ago. During this period the population of the world has increased as a whole only about 150 per cent, according to the National City Bank statistics. The population of the United States, however, which in 1822 was less than 10,000,000 souls, is now 107,000,000—a tenfold increase. The population of Brazil, which was little more than 3,000,000 people in 1822, is to-day 31,000,000—again a tenfold increase, precisely as in the case of the United States.

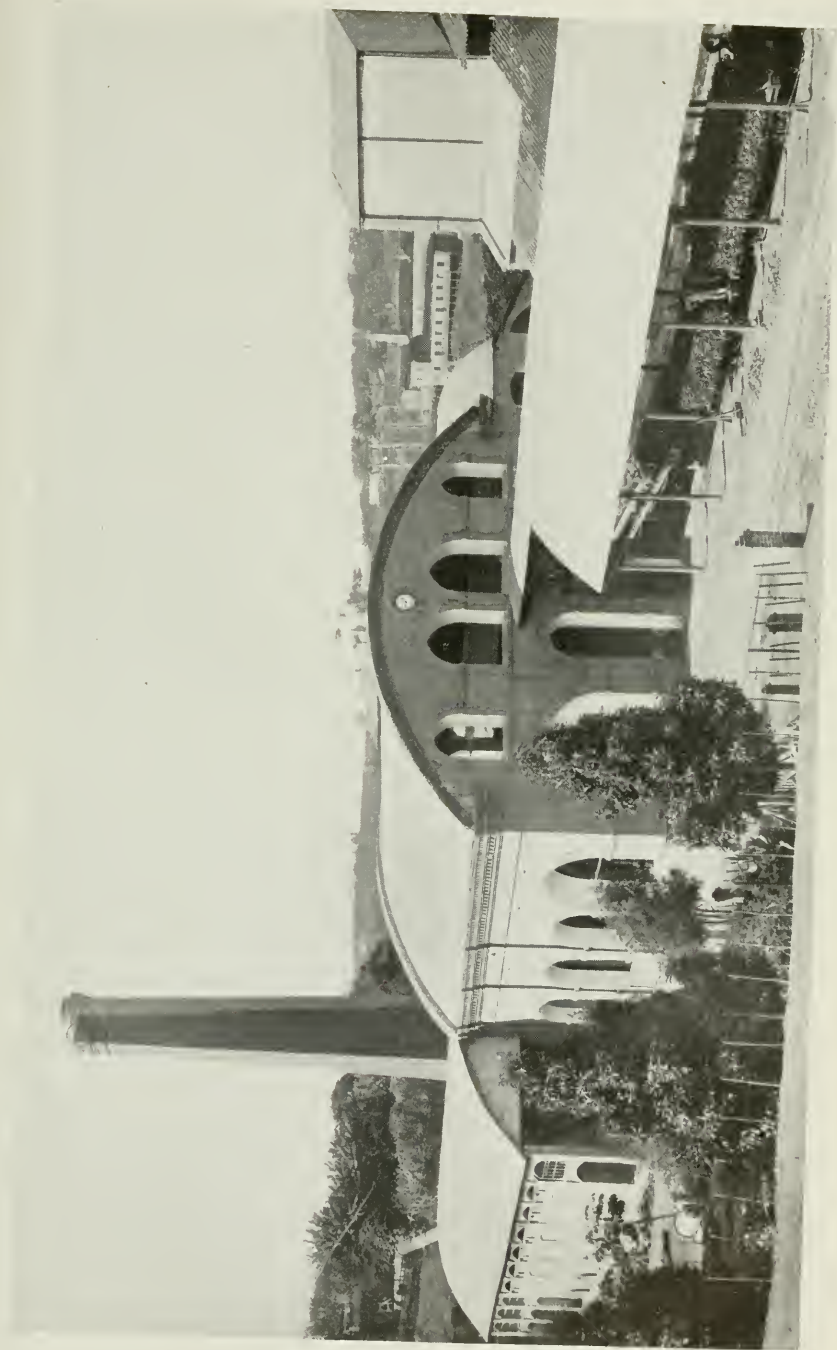
During this same hundred years the international trade of the world has increased no less than fortyfold. Indeed, the United States trade has increased sixtyfold, from \$109,000,000 to \$7,000,000,000. But the foreign trade of Brazil has increased one hundredfold, from a mere half dozen of millions to nearly one billion in 1920, and precisely as you are coming back to your marvelous former situation after the general depression of 1921 so are we coming to ours.

You know our products. You know how we are already the first producers in the world of coffee, manganese, yerba maté; the second in cocoa and in rubber; the third in refrigerated meat; the fourth in cereals; the fifth in cotton and tobacco; the sixth in sugar cane, to name only these, of the many.

Entirely apart from your sincere friendship for Brazil, you realize that among the 68 countries with which you hold commercial relations, she is one of your five largest customers in flour, coal, cement, certain industrial and agricultural machinery, automobiles, locomotives, rails, and other manufactured products. You know also that you enjoy in Brazil a unique preferential and favorable tariff on most of your products. You know, moreover, that Brazil in 1913 bought only a little over \$29,000,000 worth of American goods, and that in 1920 she bought \$160,000,000 worth of your products.

Finally, you know the opportunities in Brazil not only for your exporters, but also for your investors. In public loans Wall Street invested \$150,000,000 in South America during the last year—one-half of that amount in Brazil alone.

I realize, in closing, that I am talking to the leading business people in New York—to the very heart of the United States—to the city which is at once the pride and boast of your country and the most magnificent accomplishment of human progress. I know, moreover, that New York is a great friend of Brazil, and so I take my seat perfectly sure that you will respond to the invitation of Brazil with all your mind and all your heart.



A SUGAR MILL AT PIRACICABA, STATE OF SÃO PAULO.

TRIP TO THE BRAZILIAN CENTENNIAL EXPOSITION

By WILLIAM A. REID,

Trade Adviser, Pan American Union.

IN commemoration of a century of freedom and growth, the Brazilian centennial comes upon the world's attention at an opportune time—at a period when many nations are striving to bring order out of chaos, when all peoples are yearning for the return of peaceful progress and material development.

The great Brazilian Republic, occupying nearly half of a continent and extending from tropical Amazonia to the temperate lands of the far south, embraces such a variety of soil and climate that Brazil stands among the first nations of the world in the production of raw materials. Foods raised for the human family meet domestic needs and leave a tremendous surplus for shipment to less fortunate lands; while many varieties of nonedible commodities are sought by the foremost manufacturing nations of the world. Not only is Brazil producing these materials, but her vast, and in many cases virgin, areas offer new homes for additional millions of people.

So, in displaying products of her soil, of her mines, of her forests, and the handiwork of her citizens, Brazil will also show what has been done to provide homes and employment for the increasing current of immigration which flows to Brazil from the countries of Europe.

Let us suppose that we are to attend the Brazilian centennial, and that we are sailing from New York for Rio de Janeiro on one of the larger vessels of the Lloyd Brasileiro, the Lamport & Holt, or the Munson Line. These are three of the leading companies operating ships between the cities mentioned. The first named is a Brazilian company and its ships fly the flag of that nation, the second company operates under the British flag, while the third company's vessels fly the Stars and Stripes. Thus in making the voyage one has the choice of three flags under which he may sail. The distance from New York to Rio de Janeiro is nearly 5,000 miles, and while smaller and slower vessels require about 14 days for the voyage, the faster ships of the companies mentioned cut several days from this schedule.

Passing out of Sandy Hook our captain steers a southeasterly course, usually sailing east of the Leeward Islands, with possibly a call at Bridgetown, Barbados, for coal. Should one's ship put into



RECIFE (PERNAMBUCO), BRAZIL.

Upper: The lighthouse near the entrance of the harbor. Center: A section of the breakwater.
Lower: The portion of the waterfront known as the Praia do Mar.

this port there will probably be sufficient time to take a motor-car ride over some of the fine shell roads of the island. From the number of old-time windmills that dot the landscape, which are used for grinding cane, one may easily imagine himself visiting Holland, rather than an English colony. A modern hotel (the Marine), quaint shops, rows of giant old mahogany trees, and white highways (colored glasses advisable) are some of Bridgetown's attractions. Cablegrams may be sent from this point to friends at home.

Sailing south from Caribbean waters, the ship has a voyage of several days before sighting the Brazilian coast. During these days all passengers who have never crossed the equator are preparing and being prepared to meet Father Neptune. The sea is tranquil, the weather is warm but delightful, the ship has left behind the heavy roll of northern waters, seasickness has passed, and Neptune, as he comes aboard, alternately terrifies and delights the ship's passengers. After all are initiated and have thus become true sons and daughters of Neptune, games are played and prizes awarded, and a grand ball takes place. By this time everybody is acquainted, those of jovial spirits are at their best, and the remainder of the voyage is one of constant enjoyment. Finally, expectancy is gratified, the Brazilian shore with its tropical verdure looms upon the horizon, the sunsets become more gorgeous and quite as beautiful as the proverbial splendor observed off the Japanese coast.

The first Brazilian port of call is likely to be Pernambuco (Recife), where a few hours may be spent, usually sufficient to send mail or passengers ashore. A long reef opposite this port prevents large vessels from entering the inner harbor. If the sea is rough the somewhat amusing basket service is used in transferring passengers from the ship to the tender which conveys them ashore. Here the passenger begins to feel the atmosphere of the land to which he is bound, for more than likely the ship will receive a contingent of Brazilians, also voyaging southward.

Bahia, the oldest city of Brazil, lies a few hundred miles south of Pernambuco. There are both upper and lower sections, the city being in this respect something like Quebec, Hongkong, Gibraltar, or Valparaiso. Bahia's business sections are located in the lower city, but hotels and new streets are all on the upper levels. If one has several hours at his disposal, a motor car or trolley may be taken for a visit to Rio Vermelho in the suburbs. Glimpses of some of the best as well as some of the humblest homes will be caught *en route*. The bright colors of the houses interspersed among the palms and tropical verdure form attractive combinations, especially novel and pleasing to the newcomer. The Hotel Sul Americano in the upper city is among the best hostelrys, where one may partake of Brazilian



LACERDA ELEVATOR, BAHIA.

foods. The oranges of Bahia are among the largest and most delicious of the world.

The experienced sea captain often makes port at the break of day. To the passenger there is something thrilling in the act of steaming cautiously at dawn into a foreign harbor, saluting and being saluted, and in seeing the maritime life begin the activities of the day. The inquiring passenger on the southbound ship is up and on deck as the vessel rounds Cape Frio where, altering her course, she steers for the Brazilian capital, 30 miles away. An hour or so later, the ship passes through the famous gateway dominated by Sugar Loaf Peak, 1,300 feet high, into the Bay of Guanabara. The entrance is effected through a narrow bottlelike channel, opening into a vast expanse of tranquil water (12 miles wide, 18 miles long) dotted with islands, the whole scene dominated by awe-inspiring mountains and peaks more perfectly revealed as the morning mists pass away. Rio de Janeiro, the matchless, has been reached!

Doubtless no city of the world presents a grander or more picturesque setting for a great Exposition. Mountains, hills, dales, tropical verdure, bays, and the sea have all combined to make the place distinct, unique, beautiful, enchanting. Nature assembled this wonderful combination of elements, and for a century and more man, with his art and skill, has sought to multiply and to perfect these natural beauties by constructing a great and modern metropolis. This is the environment of the Centennial Exposition—an environment that will hold the newcomer spellbound, as well as delight anew those who have previously seen the Brazilian capital.

Rio de Janeiro to-day has a population of more than a million people; the great majority of residents, of course, are Brazilians but, as in all important cities, there is a foreign and floating population numbering many thousands. The city takes its name from that of the first month of the year, as on January 1, 1531, Martim Affonso sailed into the great bay about which the city clusters and, thinking he had entered the mouth of a mighty stream, christened it Rio de Janeiro—River of January.

Politically, Rio de Janeiro is situated within a Federal District, the latter being about eight times larger than the District of Columbia. The city itself covers an area of about 61 square miles. The municipal organization is under the control of the Brazilian Government, but the citizens have a voice in local affairs, being represented in the National Congress by 3 senators and 10 deputies. The city's affairs are administered by a prefect or mayor who is assisted by 7 boards, or committees, representing the several branches of municipal activity.

It is assumed that the average visitor to the Exposition will wish to spend several weeks in Rio de Janeiro. He will, of course, endeavor to make the best use of this short stay. First, by climbing

Corcovado by the electric cog road a wonderful view of the city and its environs is obtained; an excellent view is also to be enjoyed from the top of Sugar Loaf Peak, reached by aerial trolley. The Tijuca motor-car trip, made in a few hours, covers a wide range of scenery and presents examples of remarkable highway construction. Within the city proper are located the botanical gardens, the National Museum, the opera house, the Monroe Palace, the presidential palace with its magnificent gardens and sea promenade, the various shopping streets, including the celebrated Rua Ouvidor; all of which are easily reached by the electric cars or automobiles from the principal hotels. In the seaside resort of Copacabana and in the residential sections of Cattete, Botafogo, and Laranjeiras will be



AERIAL RAILWAY TO THE SUGAR LOAF, RIO DE JANEIRO.

found many magnificent houses and many interesting phases of the life of the Brazilian people will be revealed. A rail trip to Petropolis, made in half a day, will be found interesting. This little city nestles high in the Organ Mountains and is the summer residence of many well-to-do Brazilians and foreigners. Formerly, most of the diplomats stationed in Brazil maintained their homes there, but improvements in the capital city have caused many to reestablish themselves in Rio de Janeiro. Oakenfull's *Brazil* and other descriptive handbooks on the country and its capital, exposition guide books, etc., written in English, are for sale at the leading newsstands and bookstores. Bruce's *Brazil*, *The Brazilians and their Country* (Cooper), or other books might be read before leaving home.

While sojourning in Rio de Janeiro one may go by rail to São Paulo, the world's greatest coffee State, and its capital, the latter often called the Chicago of Brazil. This second city of the nation is about 300 miles distant. Excellent sleeping-car service is maintained, but I would suggest a slower day train in order to see the country through which the road passes, as well as to catch glimpses of Brazilian life and work to be observed on the way.

It may be recalled that some years ago when the authorities decided to improve and modernize Rio de Janeiro a most ambitious plan of municipal development was inaugurated. This plan included the condemnation and removal of nearly 600 small buildings in order to construct a wide avenue connecting certain portions of the city. This great thoroughfare, known as Avenida Rio Branco, is to-day one of the world's finest and most conspicuous examples of the modernized city street. It extends north and south a distance of about a mile and a half, and is 110 feet wide. Rows of *Pau Brazil*, the species of tree from which the republic derives its name, occupy the center, the sides being used for traffic, which of course moves in opposite directions. This avenue also serves as a connecting link between sections of the bay; at either end of the former are large open spaces which lead to other avenues and streets. Along Avenida Rio Branco stand many of the capital's business structures, hotels, cafes, newspaper plants, and office buildings. At approximately the half-way point of the Avenida the electric street car system of Rio de Janeiro centers. Here the cars are continually arriving and departing, linking the city and outlying districts with the business heart of the capital.

Avenida Rio Branco will really unite the two sections of the Exposition grounds, while its extreme breadth will greatly facilitate the handling of the visiting crowds. Properly speaking, the Centennial Exposition is only one of a series of units constituting the centennial celebration, as we shall see later. The several areas designated for exposition purposes lie along or near the water front. The site where native or Brazilian products will be exhibited is a plot of ground having water on two sides; and from this plaza a street extending along the water front to the Monroe Palace, one of the city's most beautiful and commanding structures, has been designated as the "Avenida do Nacoes" (Avenue of Nations), along which will stand the official pavilions of foreign governments. By far the largest area available for exposition purposes is that lying at the opposite end of the Avenida Rio Branco, in the vicinity of the new docks and warehouses, where large exhibits, such as machinery and locomotives, find abundant space. By consulting the small map on page 535 the exposition sites and adjacent streets will be more easily understood.



AVENIDA RIO BRANCO, RIO DE JANEIRO.

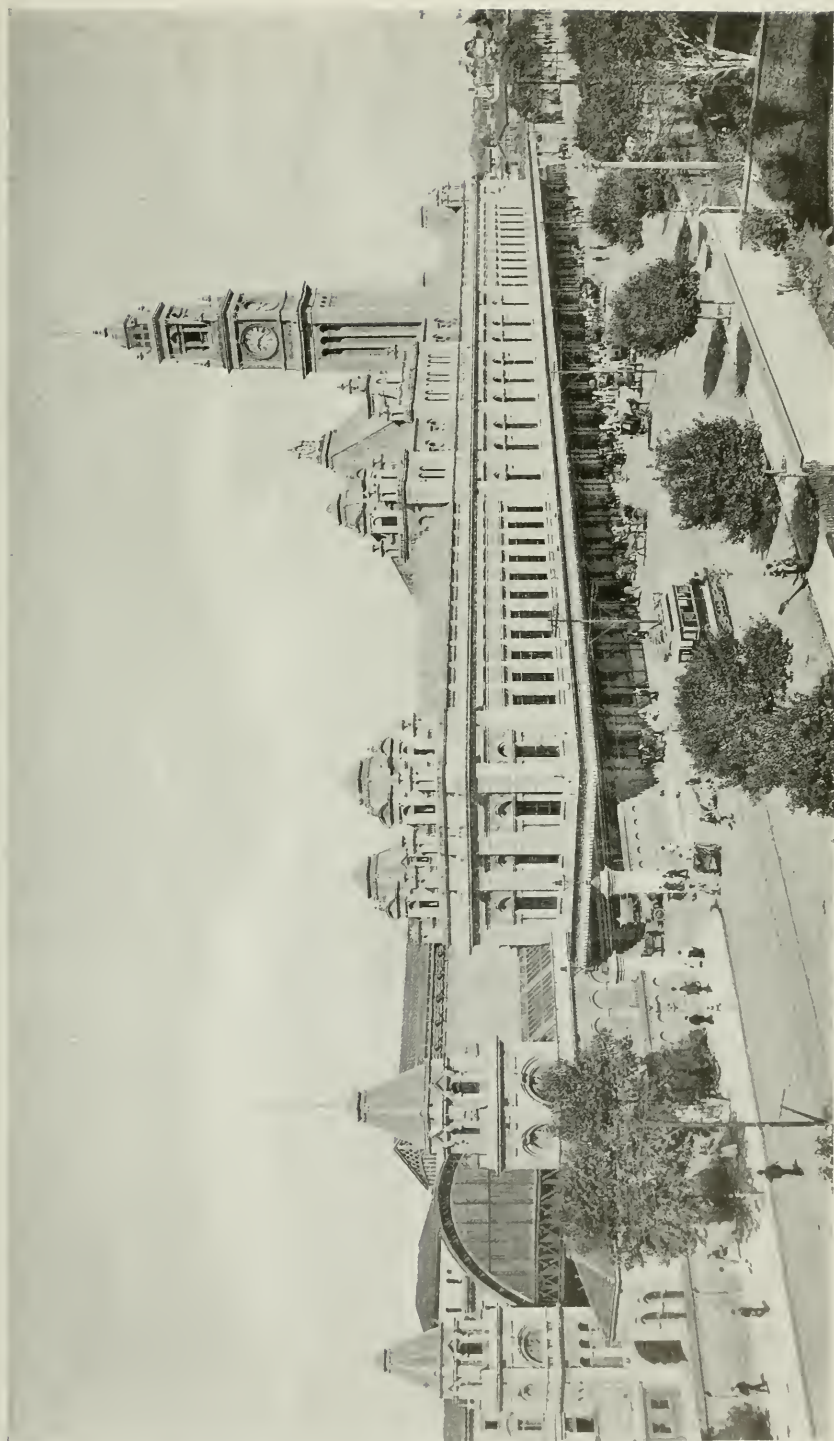
This avenue is noted the world over for its beauty. It is wide and lined with beautiful buildings. On this avenue are the best stores and the newspaper offices. At one end are the Palace of the National Academy of Fine Arts, the National Library, the Supreme Court, Municipal Theater, and the Monroe Palace.

Several thousand men are now engaged on construction work connected with the exposition. Numerous buildings or pavilions are at various stages of completion. The official buildings of England, France, Portugal, the United States, and other nations are well under way. Some of the Brazilian edifices nearing completion are: The palace of industries; palace of states, which is exclusively for the display of Brazilian products; the pavilion of small industries; fish and game building; transportation and agricultural building; meteorological building. The administration pavilion is also nearing completion. A number of buildings are of colonial architecture while others partake freely of a more modern design. In decorative features the artists have drawn largely from the fauna and flora of the Brazilian Republic, the friezes of several pavilions being sky blue on a white background where crops, foliage and animal life are depicted. Brazilian newspapers report considerable rivalry between the numerous artists, which no doubt will result in many notable exposition novelties.

It would be practically impossible in a short article to even outline the many interesting things that Brazil and her visiting nations will present to the people. In a general way, Brazil will endeavor to show the world some of the vital influences that have made the country grow and prosper. In the first place, the Exposition will reflect agricultural development, progress in stock-raising, fishing, and mining; the growth of mechanical industries; transportation progress on land, rivers, and along the coast; postal and telegraph services; the work of Brazilian artists and scientists; the development of commerce; and the production and conservation of foods.

While Brazil can not claim a place among the great manufacturing nations, the progress made in this line of activity during recent years has been remarkable, and the manufactured goods to be exhibited will more than surprise the average visitor, most of whom probably think of Brazil as a land where factory wheels have not yet begun to turn. The textile industry is one of the activities which has made important progress, there being thousands of operatives engaged in the numerous plants within the Federal District and in the State of São Paulo.

Will the Brazilian capital be crowded with people during the exposition? The answer must be yes, and for that special reason the American Chamber of Commerce of Rio de Janeiro, in cooperation with Brazilian officials, is preparing to aid the numerous visitors expected from the United States by securing uniform and reasonable hotel and rooming-house rates. At all times many restaurants and cafés of the capital cater to the public. Meals are charged at reasonable prices, ranging from \$1 to \$2 or more, according to the style of the place. Cafés where coffee and lighter food or refreshments



ESTAÇÃO DA LUZ, ONE OF SÃO PAULO'S RAILWAY STATIONS.

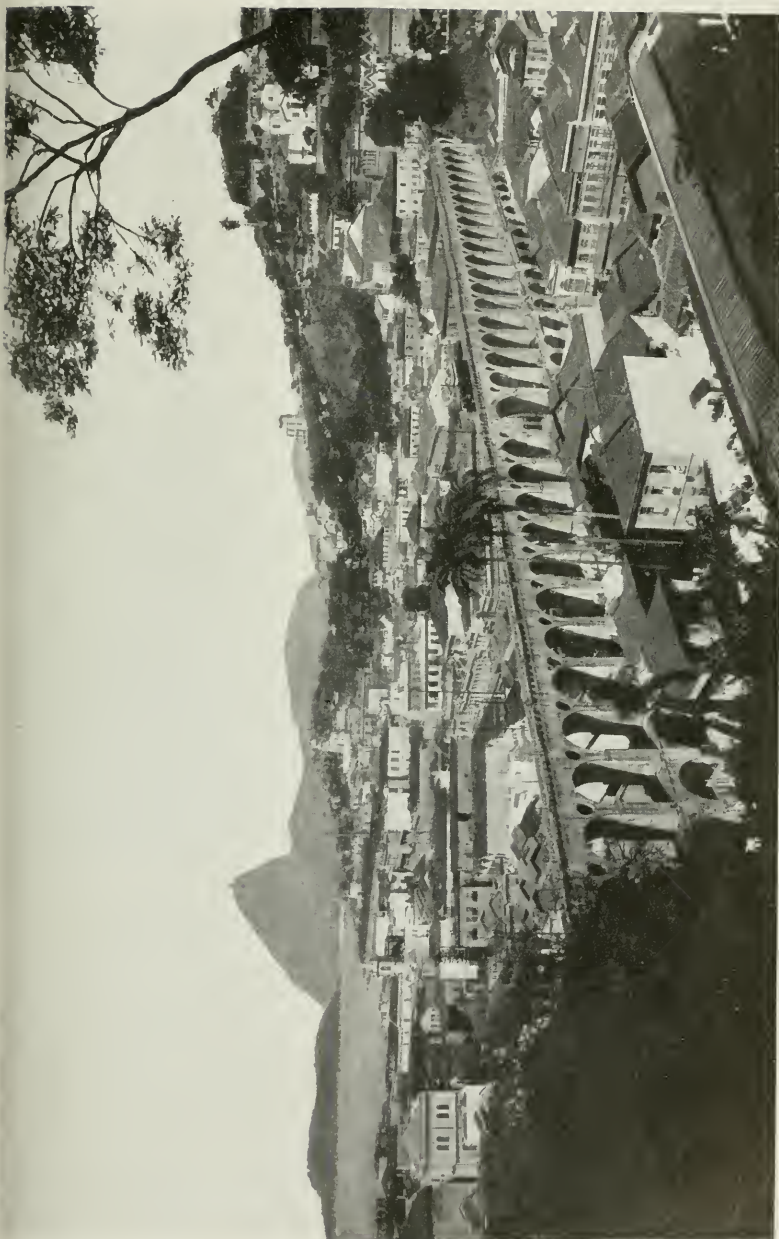
are served are numerous and correspond, in a way, to the quick-lunch rooms in American cities. At present a light breakfast of fruit, rolls, butter, and coffee is quoted at 6 milreis, equivalent to slightly less than 75 cents in United States currency.

What is the climate of the Brazilian capital, and what kind of clothing will it be advisable to take with me? asks the prospective tourist. In the first place, it will be summer in the United States when we sail for the Exposition, and tropical weather always prevails in Rio de Janeiro and in northern Brazil in general. With these facts in mind the traveler will provide himself with summer-weight clothing; but the wise voyager usually carries a topcoat, a raincoat, a steamer rug, and at least one suit of medium-weight underwear for possible changes in temperature or for use on trips into the mountains, where the air, especially at night, is many degrees cooler than at sea level. A tuxedo or dress suit may be needed and is always useful. A small steamer trunk and a suit case are sufficient to carry the wardrobe of the average traveler. Rio de Janeiro lies in what is termed the "second zone," which has a temperature varying from 73° to 79° F. in the lowlands and from 50° to 64° as more elevated regions are approached. During the months of September, October, and November, the climatic conditions of Rio de Janeiro are very good. Occasional showers may be expected with possibly cool nights, but always warm or hot days. Land and sea breezes usually alternate, making the temperature quite agreeable. Health conditions and sanitary precautions in the city are excellent and modern, and the visitor will probably be exposed to no more danger than when mingling with the average exposition crowd in the United States.

No American citizen should leave his homeland without a passport. Such a document may not be needed in Brazil; but if the occasion arises where one's identity is questioned, the passport at once becomes a valuable possession. The Division of Passport Control, Department of State, Washington, D. C., issues this document, the cost of which is \$10. Passengers for Brazil should have their passports viséed by the Brazilian consul general at New York, the port of departure.

Rio de Janeiro now possesses American banking houses, a great convenience to all tourists as well as to the man of commerce. These banks and also Brazilian and other financial houses honor letters of credit, express money orders, etc., issued by banking institutions in the United States. At the present rate of exchange the American dollar will purchase practically double the number of Brazilian milreis that it would in normal times. This fact, of course, will lessen one's living expenses.

The language of Brazil is Portuguese, but many of the educated officials and private citizens speak English, French, and other lan-



THE CARIOCA AQUEDUCT, RIO DE JANEIRO.

This aqueduct was originally constructed in the seventeenth century to convey water from the Corcovado mountain to the Carioca Fountain in the city. It was repaired and improved in 1750, by order of the Governor General Gomes Freire de Andrade, Count of Bobadella. After the advent of the Republic the aqueduct was made to serve the additional purpose of a viaduct, giving passage to an electric railway which connects the center of the city with the mountains of Santa Theresa, Silvestre and Corcovado. In these mountains are found some of the most beautiful and picturesque homes of Rio de Janeiro.

guages. The leading hotels and restaurants maintain a corps of interpreters, guides, etc., so that no foreigner need fear serious difficulty in visiting the exposition on account of not being proficient in Portuguese.

At present writing the outlook for the Brazilian Centennial and Exposition is most auspicious. The fact that leading nations of the world have accepted invitations to send delegations and to exhibit their products causes the private corporation to consider the occasion from a trade expansion point of view. During the Exposition period—which has recently been extended to March 31, 1923—numerous international meetings and conventions are to take place, such as engineering, historical, educational, art, and music conven-



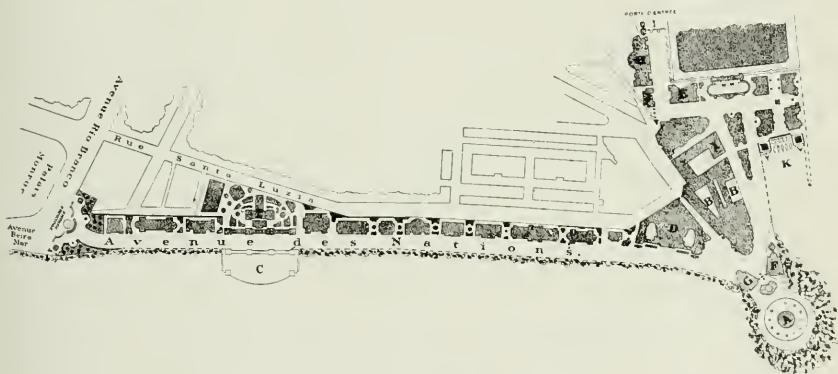
HOTEL CENTRAL, RIO DE JANEIRO.

This handsome structure stands on the waterfront called Praia do Flamengo. From its front windows one enjoys a splendid view of Guanabara Bay and the harbor entrance.

tions, Olympic games, and various other gatherings of international moment, so that those belonging to the leading professions or who are engaged in almost any line of activity will be likely to find in Rio de Janeiro many kindred spirits; while the enlarged business and professional horizon that results from such intercourse will be of inestimable value. The steamship accommodations from leading ports of the United States to Rio de Janeiro have not yet returned to the prewar scale of prices, but the tendency is to reduce the present rate to possibly \$600 for the round trip from New York. Should this or even a lesser rate be provided, the expenses of the average visitor to the centennial, if we allow a daily hotel charge of from \$6 to \$10 per day, will be within the reach of many prospective travelers.

OFFICIAL PROGRAM OF THE CENTENNIAL OF BRA- ZILIAN INDEPENDENCE ∴

THE official program in connection with the centennial exposition, which will open in Rio de Janeiro on September 7 and continue to March 31 (four months later than originally planned), includes the commemoration of a variety of events, some of an historical and others of a purely temporary character.



GENERAL PLAN OF THE EXPOSITION.

- | | |
|-------------------------------|---|
| A. Rondon Exhibition. | F-G. Restaurant; Amusements. |
| B. Palace of Industries. | H. Agriculture and Ways of Communication. |
| C. Park of Amusements. | I. The Press. |
| D. Festivals and Hygiene. | J. Statistics. |
| E. Post Office and telegraph. | K. Game and Fisheries. |

The Avenue of Nations fronts on the Bay of Guanabara.

The participation of foreign countries will be recognized by the official reception of the embassies.

First in order, come the meetings of a national and international character. The latter includes the South American Railway, Engineering, American History, Americanist, and Third Pan American Child Welfare Congresses; while Brazilian specialists will assemble to discuss higher education, agriculture, industry, commerce, cotton,

chemistry, coal, and Brazilian protection of the child, each the subject of a separate national congress or convention. The last named will admit to honorary membership those attending the Third Pan American Child Welfare Congress.

Popular celebrations will include the decoration and illumination of Rio de Janeiro; concerts of national music; a great military parade; a naval review; a civic parade in honor of the heroes of independence; a parade of school children; the free exhibition of films showing national resources, industries, scenery, places of historical interest and the various aspects of Brazilian life; and the South American Olympic games.

The Independence Museum and other public buildings will be inaugurated at this time, and the Centenary will be further celebrated by the publication of works dealing with the great milestones in national history and other phases of national activity, such as sanitation, geography, and statistics. Special stamps will be issued and commemorative medals minted and distributed.

By an act of Congress, enacted January 14, 1922, the Executive was authorized to open a special credit of 25,000,000 milreis for the organization of the Centennial Exposition. By the same law the Government is authorized:

(a) To grant exemption from import duties on all products intended for exhibition and on all materials used in the construction of foreign pavilions.

(b) To permit foreign exhibitors to sell products similar to those being exhibited by them, provided duties are paid in accordance with such rules as may be laid down by the Minister of Finance.

(c) To allow foreign governments to sell the material used in their pavilions on such terms as they may deem reasonable, in order to avoid re-exportation.

The importation of materials, articles, or objects to be exhibited in the Centennial Exposition, will be subject to the following rules:

I. The parcels must be marked "Exposição Brasileira," and bear the countermark of the importer or consignee in Rio de Janeiro.

II. The parcels and their contents will be inspected on the exhibition grounds, which will be rated as bonded-warehouse premises.

III. The parcels are to be opened only in the presence of the customhouse officials in charge of the inspection.

IV. After inspection and the fixing of the duty to be paid, the articles will be entered in a list, in duplicate, which will be signed by the inspecting office and by the person in whose custody they are to remain during the period of the exposition.

V. All objects, articles or products intended to serve as exposition exhibits and all materials used in the construction and decoration of the pavilions, as well as furniture, showcases, and all other necessary objects, will be exempt from the payment of duty, routine fees, and consumer's tax.

VI. At the close of the exposition all objects not re-exported within the time limit prescribed by the committee in charge of the exposition will be subject to the payment of duties, in accordance with the valuation of such objects made on entry.

VII.—The following are exempt from duty:

(a) Objects or articles donated to public institutions or to elementary or advanced schools in the Republic.

(b) The construction materials of the pavilions when the latter are transferred to the dominion of the Brazilian Union, the Federal District or institutions of charity, and elementary or advanced instruction.

(c) Objects or articles intended to serve as advertising material and as such distributed among visitors to the exposition.

VIII. All such objects or articles as may show signs of great damage when sold will be subject to the payment of duty according to their actual value and below the ratio of their classification in the tariff.

IX. The consular invoices relating to parcels intended for the exposition will be exempt from stamp duties and fees.



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(*Continued from April.*)

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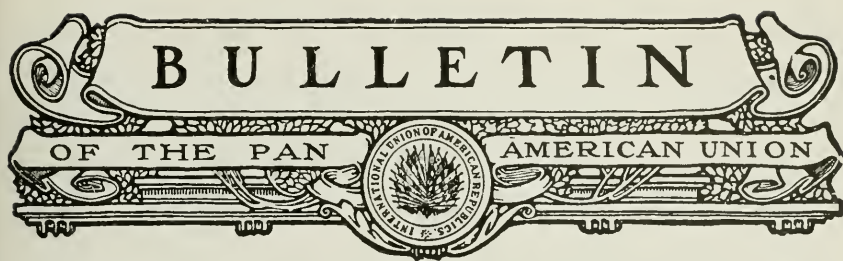


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DR. MARCELO T. DE ALVEAR, PRESIDENT-ELECT OF ARGENTINA.



VOL. LIV

JUNE, 1922

No. 6

DR. MARCELO T. DE AL- VEAR, PRESIDENT-ELECT OF ARGENTINA ∴ ∴ ∴

ON APRIL 2 of this year Dr. Marcelo T. de Alvear was elected president of Argentina for a term of six years, beginning October 12, 1922.

Dr. Alvear, who has had a long and distinguished public career, was born in Buenos Aires on October 4, 1868. After finishing his preliminary studies, he entered the University of Buenos Aires, where he brilliantly completed the course, receiving his degree at the early age of 22. As a member of the Radical Party, he was distinguished for his intelligent action along modern social lines. Heir to an illustrious patronymic and equally distinguished tradition of service, being himself the possessor of a liberal and unselfish spirit, Dr. Alvear added fresh laurels to his inheritance by his championship of democratic ideals. In 1912 he was elected to the National Congress as deputy for the city of Buenos Aires, and on the expiration of his term he was reelected by the Province of the same name. Dr. Alvear's record in Congress was of a high character, and it is especially to be remembered that it is chiefly to his initiative and untiring energy that the country owes the enactment of the tenure law for public employees and the cheap housing law.

In 1916 Dr. Alvear accepted the post of minister of Argentina in Paris. The skill he displayed in the performance of his difficult duties during the international crises which followed is well known. His diplomatic labor of *rapprochement* between the two countries earned for him the unstinted approval of his Government and his fellow citizens, as well as the sincere gratitude of the French officials.

Dr. Alvear is descended from a noble Spanish family. His great-grandfather was the renowned Admiral Diego de Alvear y Ponce de Leon, whose notable services in the eighteenth century were rewarded by the title of Grandee of Spain, conferred by the Crown. Later the King entrusted to the Admiral the mission in Argentina of adjusting the boundary dispute which had arisen between Spain and Portugal. The Admiral's son, Gen. Carlos A. de Alvear, military hero and president of the First Constituent Assembly, is recognized as the moving spirit in Argentina's abolition of slavery, entailed estates, and the Inquisition. After reorganizing the army, General Alvear later became more widely known outside his own country because of his services as envoy extraordinary to the Liberator, Bolívar, and as minister plenipotentiary to the United States.

The father of the new president-elect was Sr. Torcuato de Alvear, remembered for his excellent administration as mayor of Buenos Aires. To him are due not only the organization of the public offices and of the tax collection services, but also the artistic and architectural splendor of the Argentine capital, transformed by Sr. de Alvear's vision into one of the most beautiful cities in the world.

To Dr. Marcelo T. de Alvear, president-elect of Argentina, the PAN AMERICAN BULLETIN presents its most cordial congratulations and good wishes for the success of his administration, and for the increasing prosperity of the great nation whose destinies he will direct for the next six years.



COAT OF ARMS OF ARGENTINA.

THE EVOLUTION OF CALENDARS AND HOW TO IMPROVE THEM¹ ∴

BY MOSES B. COTSWORTH, F. G. S., F. S. A., F. C. A.

(Secretary-Treasurer, International Fixed Calendar League.)

THE imperfect calendar used to measure daily progress through the year is the most useful and interesting method evolved by our ancestors to record the most propitious dates to sow seeds in order to obtain the most abundant harvests and, in general, to regulate yearly activities and affairs.



PLATE 1.—THE FOUR QUARTERS OR PHASES OF THE MOON.

From these the now universal week was derived because men inevitably had to calendar by the day, and found the 7.38 days quarter of the 29.53 days cycle of the moon too awkward for the use of settled communities. Primeval men counted their age by moon-cycles, because the 365-day solar year was far too long for their primitive minds to envisage, and direct records of the sun's course were not then possible.

Its early history has never been written, and it is only recently that, due to research, it has been demonstrated that the prehistoric ancestors of all the great nations inevitably counted periods of time longer than one day by the moon—as evidenced by Biblical record and Plates 1 and 2 of this article—until Noah adopted the Egyptian 30-day month and the use of “5 equal months of 30 days each,” the latter being simpler and safer in the matter of rationing tribal sup-

¹Copyright, 1922, by Moses B. Cotsworth.

ples than the earlier alternating single-moon counts of 29 and 30 days.

In 1908 I found Sarcee and other North American Indians justly proud of the fact that long before the coming of the white man they had advanced from moon counts by stages of 5 to 6, and thence to 12 months count of 30 days each, all tallied by the 5 bundles of sticks shown in Plate 3.

The Romans, Arabs, and some minor races who continued 29 and 30 day groups of 5 moons count (misnamed years) later expanded their count to 10 moons, totaling 295 days in their so-called years. In 713 B. C. Numa, the Roman Caesar, added January and February, thus making their 12-moon calendar 354 days long. During 433 B. C. the Romans began to intercalate the thirteenth moon of the Metonic Cycle, as the Chinese and other races still continue to do.

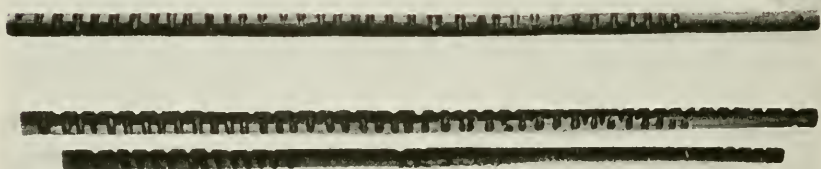


PLATE 2.—MOON STICKS, FIJI ISLANDS.

These moon sticks were used in the Fiji Islands to tally moons, which early men tallied as "years." These were collected by the first British governor of the Fijis, who hired servants for three years. As they did not understand the year's length, the interpreter told them by finger counts that they were hired for 36 moons. But the governor had to pay them for the thirty-seventh moon (notched separately to the right) because there were 37 moons in the three years of his administration.

But the more practical Hebrew patriarchs by more careful and exact observation of the sun's seasonal points at sunrise were led to drop their 5 equal months, totaling 150 days, for the more seasonable 6-month year, which Jacob tallied by his three rows of stakes lined to sunrise on the longest, shortest, and equal day and night points in order to obtain two increases of lambs and kids yearly, as is now done in England and British Columbia, where both grazing and weather conditions permit.

As sheep and goats were not only the means of exchange but the chief wealth of Jacob and his descendants, who traded upon the facts that these animals carry their young only 5 months and can be made to breed almost every 6 months, Jacob's descendants naturally continued his method of 6 months count until Moses, at the Exodus, gave them the more advantageous Egyptian calendar year. And it is a significant fact that after the Exodus the length of life of Bible

worthies accords with our own. Moreover, when we compute the recorded ages of earlier patriarchs into true years on the basis of the 1, 5, or 6 months calendars, which were then in use, we find that they lived only the normal number of years, as the following table of typical readjustments shows:

Methuselah's 969 "years" were moons, totaling 79 true years.

Abraham's 175 "years" of 5 months totaled 72 true years.

Jacob's 147 "years" of 6 months totaled 73 true years.

The various stages of this natural evolution are portrayed in Plate 4. They are typical of the similar expansion from 1 to 6 months by which ancient peoples progressed in the evolution of their calendars.

HORIZON METHOD OF OBSERVING THE SEASONAL POINTS OF SUNRISE.

The sunrise system was man's next step toward dividing the year into seasons. It was the direct result of the observation of the tribal seers, who noted that the sun rose at different seasons from behind different mountains or trees, as diagrammed in Plate 5.

The ancient use of this method is evidenced by Plate 6, in which the Carthaginian priest is shown taking an observation across the central pivot point to the sun, which is rising behind the middle distant stone, which point was erected to locate sunrise on March 21, when the sun rises true East, day and night are equal, and their year began.

The horizon curve in Plate 7 is typical of the best form of Druidical sunrise observatory, showing the three essential monoliths standing near my old home at York, England. These monoliths mark the curved direction of the three season-dividing sunrise points, denoted, as *S*, *E*, and *W*, when viewed from the center of the horizon's circle, in line with that center's pivot point, as indicated by the priest represented in Plate 6.

Sunrise on the longest day (June 21) was marked by the North-East monolith for *S*, the summer solstice, as proved by the Stonehenge North-East obelisk, across which sunrise on that day shines direct to the pivot point erected in the center of that great circular observatory. (Plate 8.)

The diagram, in Plate 9, showing the primitive style of Jacob's observatory, indicates by *S* and *W* the less widely apart sunrise points on the longest and shortest days, in countries nearer the Equator.

All primitive observers of these seasonal sunrise points tried to count the days between those marking the longest and shortest days, but found that count too difficult to verify, because the sunrises north of east between March 21 and September 23 number 186, and south of east between September 23 and March 21 only 179; since the spring, summer, autumn, and winter seasons are respectively 92, 94, 90, and 89 days long.

These erratic differences baffled the observers in their tally of seasonal days all the more because for nearly two weeks at both the northeast and southeast they could not perceive perceptible difference in the sunrise points, and the fact that there were 186 days in the summer half year and only 179 days in the winter half year—a difference of 7 days or quarter of a moon—greatly puzzled the superstitious ancients.

Eventually, by necessity and experience, they were led to focus their observations on the true East line which Jacob located by his last row of poplar stakes, in finding the true breeding seasons for

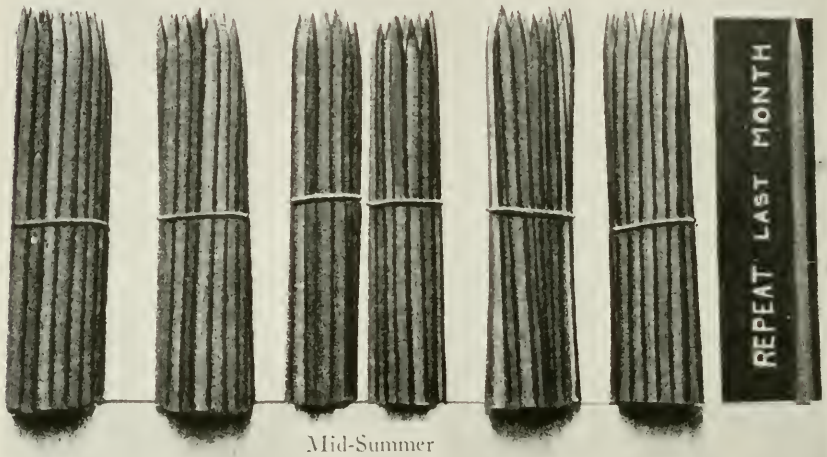


PLATE 3.—THE FIVE-BUNDLES CALENDAR USED BY THE AMERICAN INDIANS.

The 5-bundles calendar used to count human longevity 3,000 years ago—in mistranslated “years” only 5 months long, was next extended to 6 months and thence to 12 months. One bundle to tally equal 30-day months had previously replaced uncertain 29 to 30-day moons. The stick at the end, drawn each morning from the monthly bundle of 30, denotes the passing day.

The North American Indians began their year on the day the first spring thunder brought rain, when the medicine man began daily to tally a stick from their first bundle of 30.

This 5-bundles form of calendar, having 30 sticks for 30 days in each of their always equal months, was probably the earliest style of record used by our remote ancestors to count the days that were gone, and the more important coming days when drawing near to their seasons for hunting and sowing seeds. The 5 bundles of 30 twigs each appear to have been the form most naturally used by the Bible patriarchs, from Noah to Abraham and Isaac. Next Jacob apparently brought the sixth month into use, by again using his last bundle, as the Chinese and other races using lunar calendars have continued to do when adding the thirteenth month. The Red Indians of Northwest Canada still secretly use the 5-bundles form of calendar. They always split the middle bundle into two of 15 each, to locate midsummer and midwinter, as the day following their fifteenth tally.

sheep and goats. Reference to the enlargements projected at the right in Plate 5 proves that sunrises on the *E* lines during equinoctial week show a daily difference about 20 times greater than during the winter solstice week proportionately enlarged at *W*.

By contrasting the narrower range between the seasonal sunrise points of the Cairo Sphinx, *S*, *E*, and *W*, in Plate 10, with the nearly three times wider range between the like season-dividing points at London, in Plate 5, we may realize why the Egyptians were forced

to abandon the "horizon method" and devise the surer "meridian method" to locate the seasons by shadows.

THE "MERIDIAN METHOD" OF LOCATING THE SEASONS AND MEASURING THE YEAR BY NOON SHADOWS OF OBELISKS AND PYRAMIDS.

In Plate 11 the world-renowned obelisk in the center of the Piazza of St. Peter's, Rome, is shown casting its sunrise shadow toward the

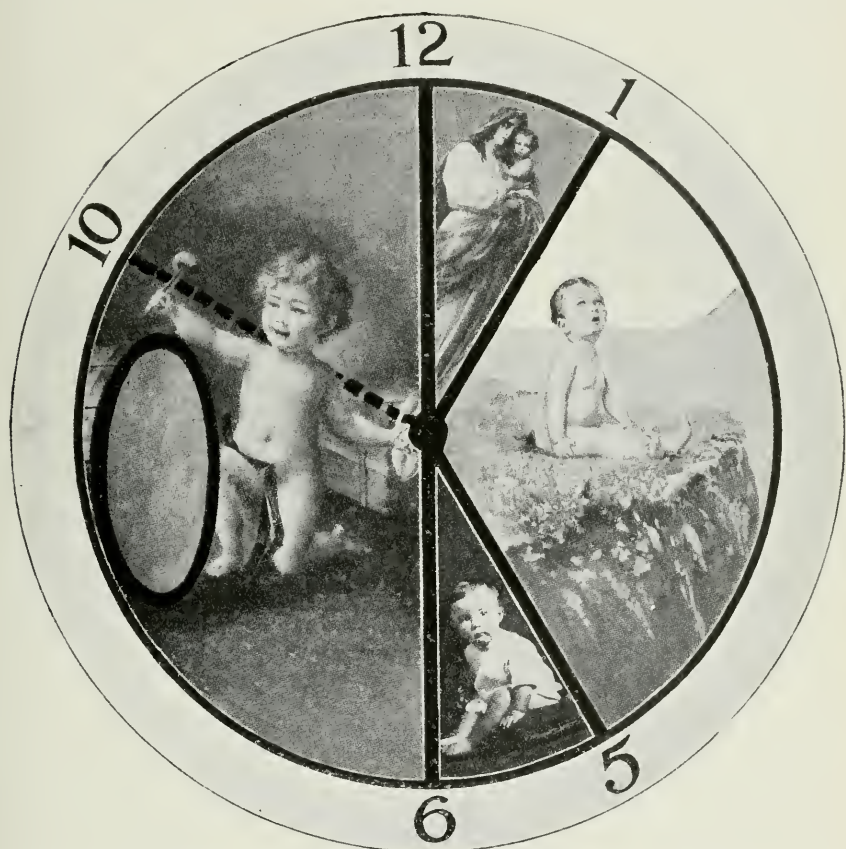


PLATE 4.—ILLUSTRATING THE GROWTH OF EARLY IDEAS OF THE LENGTH OF THE YEAR.

This combined series of 4 pictures approximately represents the 1, 5, 6 and 12 months' stages of a child's first year of life. Chronologically, there was a very similar but incomparably slower natural evolution in the ideas of the early tribes and races of mankind, who developed those patriarchal and gradually expanding "month-grouping units," mistranslated as "years," by which the great men in prexodus times counted their lives. The Arabs and Romans expanded from 5 to 10 moons, and thence to 12.

entrance to that greatest of cathedrals a little after 6 a. m. But the most significant indication in this aerial photograph of the obelisk is its meridian line truly oriented along the north side of the roadway from S to W. That is marked by the granite midday measuring line between the oval marble disks which indicated certain months and seasons. In January, 1900, I found the significant words

Canceri solstici still readable although much worn, on the oval nearest the obelisk, manifestly recording the fact that the Catholic church authorities, who brought the obelisk from Egypt in 1586 to commemorate the last reform of the calendar by Pope Gregory the Great in 1582, had not neglected to lay down that meridian line with its crowning indicator disk engraved with those two words, indicating

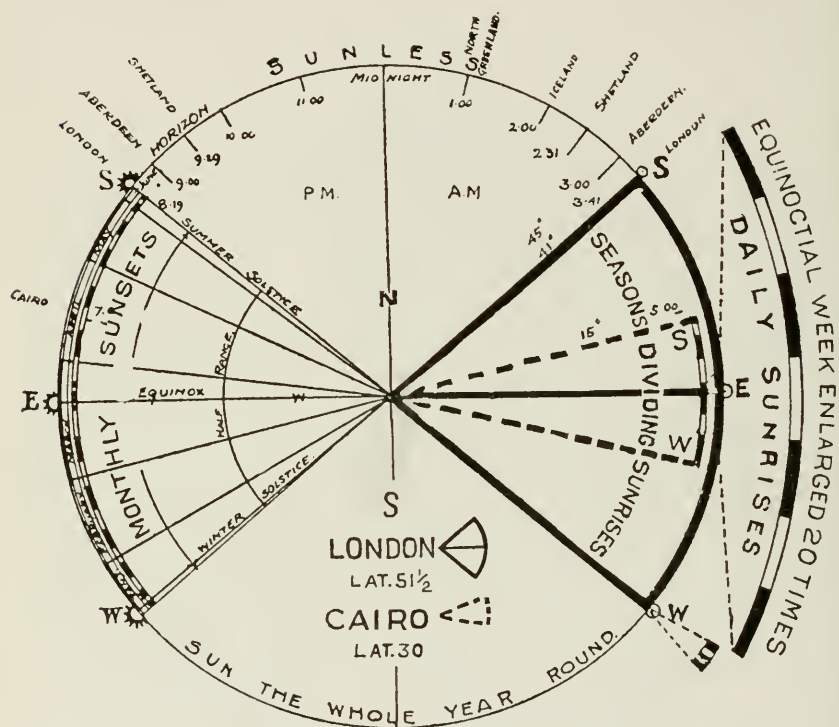


PLATE 5—"AMPLITUDE" DIAGRAM OF SEASONAL SUNRISE-POINTS.

Contrasting the narrow 30° range at Cairo, with the nearly three times wider 82° London range of sunrise and sunset-points along their parts of the horizon—represented by the complete circle's *S, E, W*, sector, in which *W*, denotes winter, December 22; *E*, equinoxes, March 21 and September 23; *S*, summer, June 21. The winter solstice, *W*, week's range of sunrise change in the southeast is enlarged twenty times, to compare with the nearly twenty times wider interday differences seen between sunrise points during the equinoctial week *E*, when the sun rises due East. Then days and nights are equal.

that when the sun reaches its highest point at noon on June 21, the obelisk's shortest shadow is that moment registered at *S*, on that oval marble marker. Similarly, on the farthest disk at *W*, the tip of the obelisk's longest noon shadow falls on the winter solstice day (December 22). The outer edges of these two marble disks determine the extreme ends of that obelisk's meridian floor line, and they disclose how the Egyptians first used obelisks in calendaring days, months, seasons, and years.

EVOLUTION OF THE PYRAMID SYSTEM.

When discussing my investigations concerning the evolution of pyramids with the late eminent Egyptologist, Professor Maspero, he very kindly drew the "pyramid emblem" (reproduced in Plate 12), stating that it was the distinctive feature found in pyramid temples, and asking me if I knew what it meant. I replied: "There, [pointing.] is the *mastaba*,¹ about the height of the obelisk, which latter has been raised upon it in order to double the length of its shadow. Disked above it is the noonday sun on equinoctial day, that central point in all astronomy when pyramid years astronomically began."

Later I found that the most notable obelisk in India, the "Lat of Asoka," had thrice been similarly raised on three successive *mastabas* (as shown in Plate 13), due to the fact that later generations tried to win truer calendar records by longer sun shadows and higher star pointers.

Inspection of a section of the earliest Egyptian pyramid in the Encyclopaedia Britannica disclosed the fact, evidenced by Plate 14, that Egypt's oldest pyramid originally consisted of merely one *mastaba* (A. A.). The renowned Professor Flinders Petrie proved by actual excavations that the whole surface of that first built *mastaba* (now the inner core), was covered with polished granite,

over which later generations built up the four more superposed *mastabas*, as shown by the shaded part of that section of the pyramid, above which the observatory obelisk must have been placed. Plate 15, showing the present state of this pyramid at Medum, proves that the builders of the first pyramid did not build up the outer triangular slope nor the three dotted projections, as the early sketcher wrongly inferred from the layers of side extensions which the builders, with their economical methods of expansion, added in making their terraces of progress upward, as did the Babylonians and Mexicans.

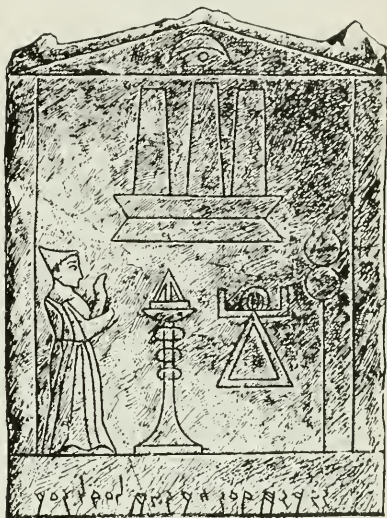


PLATE 6.—PRIEST OF CARTHAGE LOCATING SUNRISE POINT.

Priest of Carthage locating the sunrise point. *E* across the fixed central observation point to the sunrise shining around the mid-tri-stone *E*, in order to locate the beginning of their year at spring. That is the highest of the three stones above. The summer stone *S* is on the left, and the winter stone *W* to the right. The sun and moon are united by the rod on the right to form the degree measuring 360 times around the horizon as the unit of astronomical measures.

¹ Arabic for bench.

The next pyramid, at Sakkarah, was increased by six *mastabas* to a height of 196 feet—the limit beyond which it is not practicable to effectively observe the noon shadows of obelisks on the meridian floor line. This limitation is due to the fact that the rays of the sun's disk, shining the full width of its half a degree diameter are bent round the narrow-pointed obelisk so that the requisite apex shadow is cut off or blurred before it reaches the meridian floor line. This is definitely proved by the great Washington Monument at Washington, D. C., where the 555 feet height of that stately stone-built obelisk



PLATE 7.—THE DRUIDICAL "ARROWS" AT ALDBOROUGH, NEAR YORK, ENGLAND.

These three 30-ton "arrows" mark the site of the earliest capital of the ancient Britons, whose leading advisers, the thoughtful Druids about the time of Jacob lived, there used the "amplitude method" to locate the seasons by the S, E, and W, sunrise points. These three sunrise-pointers are curved to the east, like the S, E, W, sector for London on Plate 5. The midstone E, projects due east, from the fixed central point of observation on the left. Compare the writer's 5 feet 11 inches height against the 30 feet above ground height of the monoliths.

causes its shadow apex—much wider than the Egyptians could rear in a single stone block—to be blurred by the incurving sun rays which cut off the shadow's tip. Its solid apex is too sharply pointed for its height (exceeding the total of five superposed obelisks) to perfectly register noon on the meridian floor line for more precise observations.

This defect is small when compared with the public and educational advantages which at very little cost could so easily be derived by laying a narrow concrete meridian line to the north of this monument from the June 21 to the December 22 noon-shadow points, so that school and college pupils, citizens, and visitors in general might thereby observe the daily movement of the monument's shadow, as it thus indicates the purpose of ancient obelisks. I therefore ask the Commissioners of the District to consider this suggestion, which

might with advantage be applied in other Pan American cities in which obelisks or columns have been erected.

The defective shadow measures obtained from obelisks raised on higher step-pyramids caused later pyramid builders to design the more bluntly apexed pyramids erected at Dashur, and shown in Plate 16. A further series of experiments was made there from two different angles of smooth shadow-reflecting slopes, which enabled later generations to build the more truly sloped and highest pyramids at Gizeh near Cairo, as shown in Plate 17, where their elevations are

reflected in the Nile's inundation, which was just beginning to recede from the thus refertilized land, just reappearing as mud flats to the right of the reflection when the photograph was taken.

In Plate 18 the present day calendar makers of Sarawak, in Borneo, are shown fixing their pegs along the noon-shadow line cast by the sun pole. The local farmers know that when that shadow falls on a certain peg they should at once prepare their land for the planting of rice; that when it reaches another, they must prepare to sow corn; and so on. By that simple shadow from an 8-foot pole, these primitive calendar makers can approximate the seasons within about three weeks, because the accumulated experience of their ancestors has enabled them to make secret marks on their treasured floor level rod by which the seasonal shadow-tip points are marked off each year.

Like the ancient Egyptians, they are most careful to carry away their secret floor level rod, leaving only the upright pole with pegs along the trenched noon-shadow line to guide the farmers. After harvests these experts return, pick out their pegs, and collect their tithes from the farmers thus helped to locate the proper seasons.

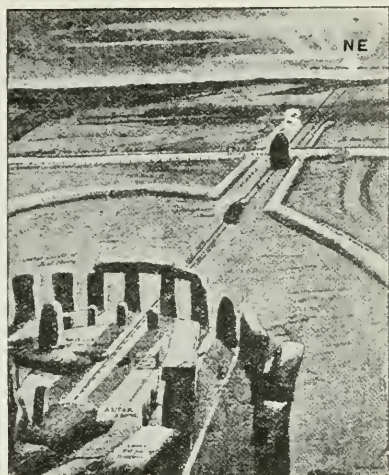


PLATE 8.—MONOLITH AT STONEHENGE.

The midsummer directing monolith *S*, at Stonehenge in the south of England, marking the northeast direction of sunrise on summer solstice day, June 21. The left axis line from the circle's central observation point, located the 1912 sunrise point from which Sir Norman Lockyer calculated by equinoctial precession that the *S* stone was erected 3,600 years ago, when sunrise was directly in line with the center of that monolith, about 1680 B. C.

PYRAMIDS WERE USED TO FIND THE TRUE YEAR'S LENGTH.

That secret noon-line measuring rod discloses how the ancient astronomers of Egypt reached the yearly 365 days count and the 0.242 fraction of the 366th, almost as exactly as our astronomers compute the length of the year, by measuring (as shown on Plate 19) the shortest noon-shadow cast by pyramids and counting the days between. Their final "Great Pyramid" was erected on a square base covering more than 13 acres and pyramided to the stupendous height of 484 feet, more than 60 times the height of the Borneo sun pole. That height, together with the four truly oriented smooth slopes which merged in the apex as a sky pointer and sun shadow deflector, form the essential features of that greatest and most useful observatory, which has been of far greater benefit to mankind than any other.

The first purpose of that stupendous and monumental instrument was to reflect the noon shadows of the sun, tremendously enlarged, from the height of 484 feet upon the meridian floor line northward, during the time when the sun most widely increases its internoon change of height in the sky, termed "elevation"—that is, during March and September. These internoon changes in the length of the apex-pointed pyramid shadow, as it crossed the meridian floor line, measured a daily difference of about 4.44 feet in length as those shortening yearly noon shadows receded to the center of the pyramid's northern base line, near the spring equinox, when the Egyptian priests began their sacred New Year. This the priests kept from

public knowledge by the civil use of 365-day years, drifting one day more behind the seasons every fourth year.

When the preceding year's shortest New Year's Day shadow measured 1 foot by the sacred removable rod, the first subsequent year's shortest shadow would, 365 days later, measure 2.09 feet; the second, 3.18 feet; and the third, 4.28 feet; but the fourth year's shortest shadow, instead of being extended the usual 1.09 feet to reach 5.37 feet, would "leap back" the full day gauge of 4.44 feet to the 0.93 point (which is less than the preceding "leap-year's" assumed 1-foot length), and the 366th day would thus be secretly counted as the ending of that "leap year," as clearly indi-

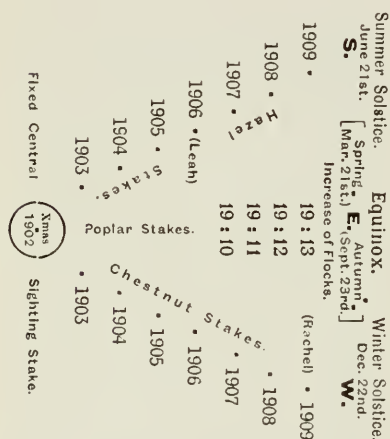


PLATE 9.—JACOB'S SUNRISE OBSERVATORY SHOWING CENTRAL AND DISTANT SIGHTING STAKES.

The central dot, Christmas, 1902, may be taken to mark the center stake from which Jacob watched the sunrise whenever he shepherded flocks in that locality. S denotes the most distant terminal rod marking his best effort to fix sunrise point upon the summer solstice day, while W marks his best stake attempt to fix the winter solstice day.

icated by the shadow of the Egyptian Sun God's pyramid.

Since it was not known how those three yearly lengthenings of the shortest shadow were caused by the movement of the Sun God, whom the Egyptians intently regarded with awful reverence as the giver of life, light, and heat, the worshipping priests were all the more puzzled when "leap-day" intervened. They therefore persevered in their efforts to derive the true pyramid slope which is indicated with exactitude, on that meridian, in only a fleeting second of time, once in 128 years, when the sun at the spring equinox crosses the Equator at noon on the meridian of the Great Pyramid.

The cause of those lengthening variations is, that nature's year is 365.242 days long; consequently when the sun crossed the Equator

at noon each 128th year on the pyramid's meridian, the noon shadow indicated the moment that began both the first astronomic day and year subsequent to the leap year and leap day thus closed.

Because the final shadow records in the three subsequent ordinary years could only be measured *at noon* on the respective 365th day, the sun would be 0.242, 0.484, and 0.726 parts, respectively, of its inter-noon rise *below* the pyramid's apex, thus yearly increasing those three cumulatively shortest shadow lengths on the noon line's day-span

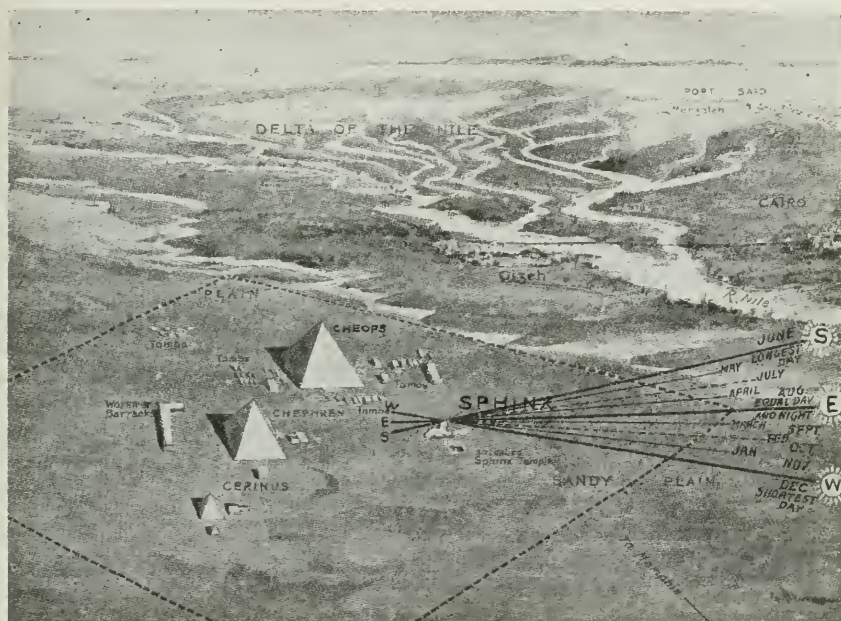
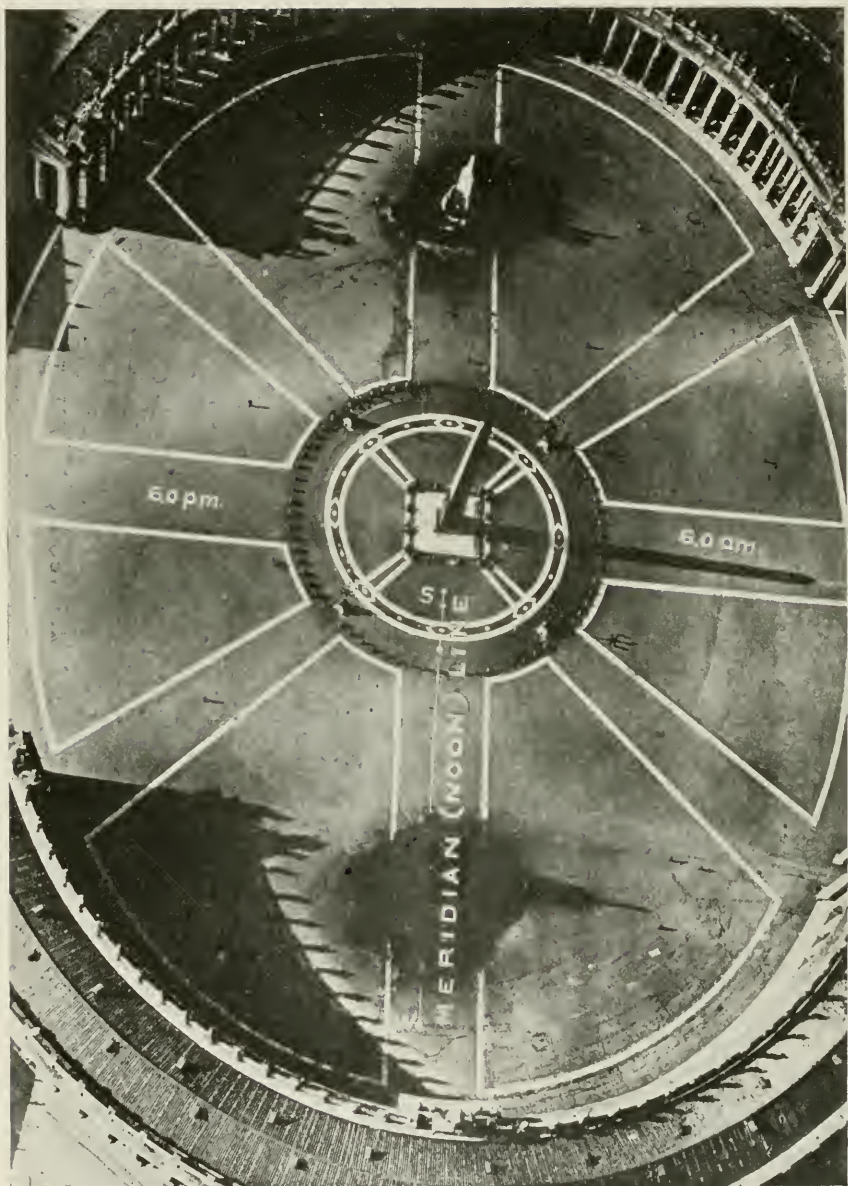


PLATE 10.—THE EGYPTIAN BIRTHPLACE OF EUROPEAN CALENDARS.

The pyramid and sphinx area, adjoining the delta of the Nile—that most permanently fertile area on earth, where the greatest variety of crops yield the richest reward of agricultural development, and offered the greatest inducements to calendar days to win food supplies and national prosperity, first by locating across the pivot asp of the sphinx its sunrise points, and second, by observing the pyramid noon shadow. The range of the sphinx's sunrise S. E. W. points is too narrow to locate precise days, and could approximate the seasons only within about one week.

gauge of 4.44 feet, by 0.242 of 4.44 feet, a yearly extension of 1.09 feet, until the fourth year accumulated the full 366th day as "leap day."

This average 0.242 beyond the noon-to-noon 365-day year, enabled the pyramid astronomers to prove the length of nature's year by measuring that fractional part of a day which the 1.09-foot yearly extension was of the 4.44 feet change in the lengths of two consecutive noon shadows, and to add to that measured portion the noon counts of 365 days in order to derive nature's true length of year—that is, 365.242 days.



Kadel and Herbert. Permission of National Geographic Society.

PLATE 11.—THE FAMOUS OBELISK IN THE CENTER OF ST. PETER'S SQUARE, ROME.

This obelisk was brought from Egypt and erected in 1586 to commemorate the last reform of the calendar by Pope Gregory XIII in 1582; which England did not adopt till 1752. The obelisk is about 100 feet high and weighs 320 tons. Its sun shadow moves like the hands of a clock (thus originated) when viewed from the north side of its base. This shows how obelisks were used to time days and years. The months and seasons of the year were located, approximately, by measuring the shortest daily shadow length at noon on the "meridian floor line," shown from S to W—also indicated by the white disks denoting the day on which the season and month-commencing shadows recur each year.

This was made practicable by the pyramid's 484 feet height projecting its immense noon-shadow lengths on the meridian floor line during the equinoctial days, when the widest expansions of the inter-noon change in the elevation of the sun is about 257 times greater than at the solstices.

These factors indicate why the Egyptians had to slope their pyramids toward the equinoctial sun and raise them more than 60 times the height of the Borneo calendar-makers sun pole, shown in Plate 18.

Limited space prevents the inclusion of proofs that the pyramids were built with much less labor than has hitherto been supposed; but I may record the fact that the Pharaohs knew the dangers of unemployed masses, and hence planned their pyramid building so that the stones were cut and side-hauled up the shady slope by intra-groined haulways during the inundation season, when Egypt's myriads of agricultural toilers were otherwise idle.

Because their need was greatest, the Egyptians had inevitably to work out these vital problems for themselves and, indirectly, for all mankind. Every living soul now benefits by the well-directed thought and labor of the ancient Egyptians.

The following reasons showing why pyramids were built prove the highly important work and valuable research by which the pyramid builders and observers so truly laid the foundations of our calendar and other most useful knowledge.

WHY PYRAMIDS WERE BUILT.

1. The greatest need of every nation is to produce adequate supplies of food to feed its people throughout the year. That need was most intense during the era of pyramid building, more than 5,000 years ago, when the increasing population of Assyria to the north and Ethiopia to the south insistently strove to conquer Egypt.

2. In that era, conquest generally resulted in the slaughter of the conquered men and bondage for their women and children, thus involving family and national ruin. Consequently imperative necessity forced the Egyptians to maintain progressively at least as large a population as the increasing Assyrians.

3. As the total area of land capable of cultivation was limited to about 13,000 square miles in the delta area and the two narrow Nile bank strips within the sand hills dividing the Nile Valley from the surrounding vast desert area of Egypt, the ancient Egyptians could not increase the cultivable area much beyond the limits of the yearly inundation. They were therefore compelled to rely upon producing more crops from the same area of cultivation by intensive culture.

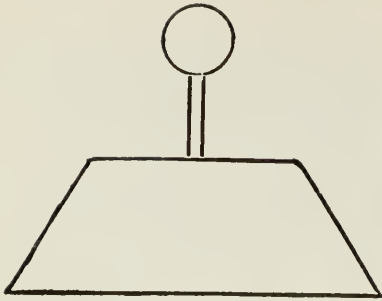


PLATE 12.—PYRAMID EMBLEM DRAWN FOR THE AUTHOR IN 1900, BY PROFESSOR MASPERO IN GIZEH MUSEUM, EGYPT.

This emblem, usually found in pyramid temples, represents the sun disked on the obelisk at noon, when the latter is mounted on a mastaba so as to cast a longer meridian shadow. If the mastaba and obelisk are each 100 feet high, the noon shadow from the apex of the obelisk would be twice the length of the obelisk's shadow when standing on the ground. As the shadow would be increased in length proportionately as successive mastabas were superimposed, the medium 5-tier mastaba or embryo pyramid below lengthened the obelisk's shadow length about sixfold.

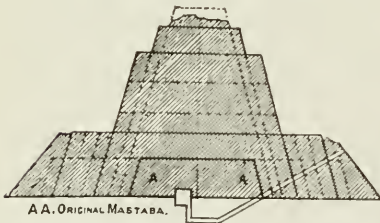


PLATE 14.—SECTION OF THE OLDEST PYRAMID AT MEDIUM.

Disclosing the successively increased height on which its obelisk was raised above the original A. A. mastaba of polished granite as the nucleus.

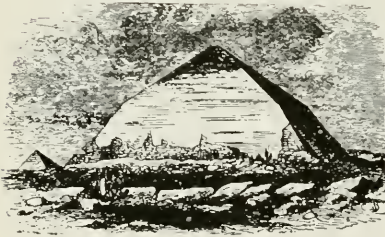


PLATE 16.—THE "BLUNTED" PYRAMID OF DASHUR.

This shows the two test slopes intermediate between step and slope pyramid building utilized in trying to find that best slope to which they built the final pyramid.



PLATE 13.—THE OBELISK, DELHI, INDIA.

The obelisk or "Lat of Asoka" near Delhi, India, is of special interest because the ancient records, 300 B. C., record the fact that this register of latitude and locator of the seasons was, during three separate generations, raised higher by building arched terraces of masonry to extend the meridian shadow register and so to derive truer knowledge of the passing seasons and year.

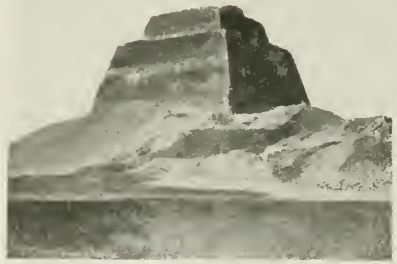


PLATE 15.—EGYPT'S FIRST PYRAMID AT MEDIUM.

Showing that it never had the uniform equinoctial slope developed in later pyramids. The next oldest pyramid at Sakkarah was similarly built in steps. The Egyptians ultimately found that the sloping pyramid was best in attaining the greatest height required to differentiate the daily shadow lengths on the meridian line.



PLATE 17.—THE GIZEH PYRAMIDS NEAR CAIRO.

These evidence the final period of pyramid building by the shadows from which the basis of both our daily time calendar system and astronomy were derived. The second pyramid casts its forenoon shadow on the Great Pyramid (See Plate 19.) The Nile's inundation water is over the fields.

4. Such increased crops could only be intensively developed by locating and using the precise seasons required in each tilling and sowing of the numerous varieties of crops the Egyptians required. They grew three grain crops yearly by applying such knowledge.

5. That precise knowledge of the seasons could not be made available without studying the sun's seasonal elevations at noon, because the Egyptian range of seasonable sunrise points is too narrow to locate precise seasons.

6. Those seasonal elevations could best be located yearly by measuring the sun's noon-day height location inversely by shadows on the meridian floor line, as the Borneo calendar men are shown doing.

7. As Egyptians had neither telescopes nor "smoked glass" for observations, and the glare of the sun in the clear Egyptian sky was too fierce for direct "sighting," they had to observe the sun's seasonal position indirectly by measuring the ever-varying lengths of sun shadows cast from the highest possible structures at noon.

8. Pyramids, as huge sun dials, were the structures they could erect sufficiently high to differentiate the noon sun shadows, which indicated by their different daily lengths the best season for each of the yearly recurring operations necessary to produce abundant crops. The Egyptians were thus enabled to insure national safety and permanent prosperity by maintaining sufficient men to defend and intensively cultivate their land.

Thus pyramids were built to safeguard the life of Egypt, which depended upon utilizing the Nile Valley's advantages by deriving and applying calendar and agricultural knowledge.

The various series of pyramids built were used as tombs for Pharaohs only *after each one except the one in use* had been superseded by a more perfectly sloped one, as the builders derived truer slopes by progressive efforts.

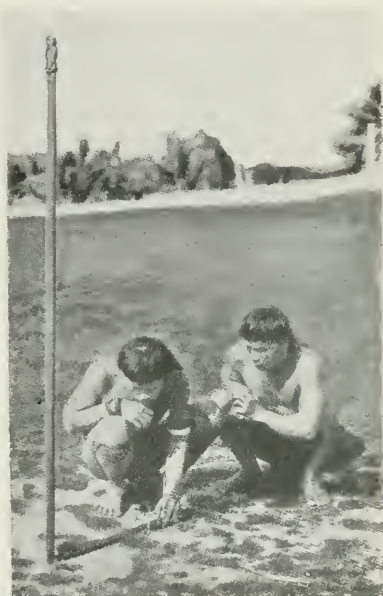


PLATE 18.—DYAK CALENDAR MAKERS OF SARAWAK, BORNEO.

Measuring off for the guidance of local farmers the length of the pole's noon shadow for the seasons when they should prepare the ground to sow corn, rice, etc. Pegs of different kinds for each are stuck in the noon line from secret marks cut on the sacred rod the calendar maker carries away.



PLATE 19.—THE PYRAMID'S SECRET SHADOW RODS DISCLOSE ITS CALENDAR-RECORDING PURPOSE.

The Great Pyramid and the Sphinx, marking the birthplace of the Gregorian calendar. These huge structures, which are regarded with curious awe by tourists, are generally supposed to be merely the stupendous monuments and tombs of ancient rulers of Egypt. They are really the greatest astronomical instruments used to establish and keep a correct yearly record of the seasons. They were built so that "seed time and harvest may not fail." Note the triangular shadow on the pyramid's light side from the second pyramid one-third of a mile to the southwest. The aris ridges, from corners to apex, enabled observers to trace the courses of the stars.

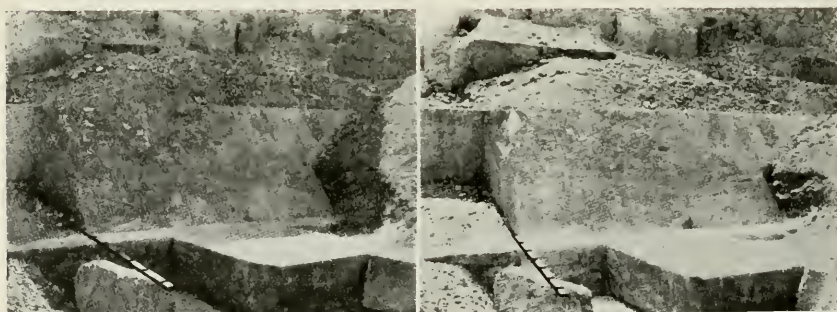


PLATE 19A.—THE "SHADOW-FLOOR" OF THE GREAT PYRAMID.

These photographs showing the "shadow-floor", where the original casing stone proves the true slope, were taken on two consecutive days in March, at the foot of the Great Pyramid, to illustrate the use of the secret "meridian rod" in measuring the length of the shortest shadow at noon each day. Note the pebbles placed one foot apart on the rod, to scale the varying length of the pyramid's shadow from the mid-foot of the northern slope, which before next noon had "swallowed its own shadow." The picture on the right proves by the absence of shadow on the rod that the sun had risen between noons above the slope, and so begun that pyramid's "New Year." By tallying the 365 noons between the shortest shadow each spring, the Egyptians first derived the year's true length. The sacred rods were removable in order that the priests could preserve the mystery surrounding the science of calendar-making. This mystery led the people to regard with reverential fear the priests who prescribed the seasons. To be buried in or around the disused mysterious pyramids was an honor reserved for the greatest men, as we bury our greatest in cathedrals and around sacred places.

HOW ASTRONOMY WAS EVOLVED BY PYRAMID OBSERVERS.

While the greatest service rendered by the pyramid observers to humanity was in finding the actual length of the year, their most far-reaching achievement was the laying of the basis of our now universal astronomy by designing and using the four equated and truly oriented slopes of the Great Pyramid. The north slope was first used as a "sighting plane" to slice off the celestial equator on equinoctial nights, as an orange cut through its mid-girth shows its equator by the circular cut skin, to which the 12 sectors radiate as if from a minute pyramid centered in the core. That slope with its apex sky-pointer was used to observe and measure the heavens into 12 zodiacal sectors, each 30 degrees wide, as each season's sectors circled nightly one degree farther past the apex of the pyramid's observatory slope, as illustrated in Plate 20.

As that circular grouping of the zodiacal stars displays how the great Aztec (Mexican) calendar stone was similarly evolved (shown in Plate 21), I will attempt to describe it more fully.

In the center of Plate 20 is one of the model pyramids by which I experimented many years, the white triangle showing the north slope. Near the center of the base is the pyramid's observation passage from which observers, by looking up the vertical line to the star passing the apex nearly 600 feet distant at midnight (timed by water-dropping clocks such as the Chinese still use), noted that the following midnight that same star circled into its previous midnight position four minutes earlier and, during the passing four minutes, moved one day-notch as one "degree" to the right, because, as we know but they did not, the earth had made one rotation, moving an average of $\frac{1}{360}$ th part of its orbit around the sun, thereby apparently circling the whole zodiacal circle one degree, clock-wise, past the apex. This one degree was counted as one finger, the next night's as two, and so on for the 10 digits of the observer's hands, which completed the 10-day week by which the Egyptians worked thousands of years before their descendants adopted the 7-day week. Three 10-day periods completed their always equal months, as shown by the three boat-like loops within each month's embracing curve. Moreover, all the tropical stars passing the apex during each of those 30-day months were grouped into the distinctive zodiacal signs which appear in our calendars and astronomical records, as in Plate 20.

Further, the ruling priests had to design an effectively simple system by which their most valuable calendar knowledge could be applied in order to win more abundant yearly crops throughout the more than 1,000-mile length of the Nile Valley. So, as their boats were wafted along the Nile by the wind, they conceived the beautiful idea

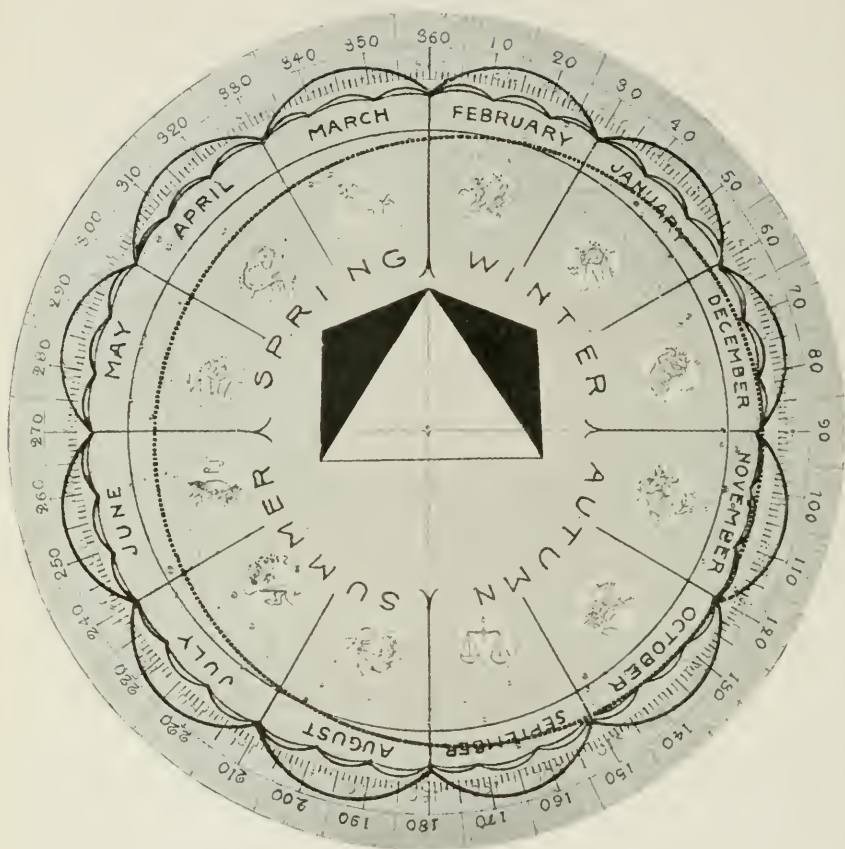


PLATE 20.—BASIS OF THE CALENDAR: THE ZODIACAL CLOCK IN THE HEAVENS.

The Zodiacal clock was finally evolved by observing and recording the stars. This southern star-clock's face revolves "clock-wise" each 24 hours as the earth rotates daily in its orbit around the sun. The earth's daily progress around its orbit was, and still is, measured by the current night's star, which having passed the pyramid apex precisely at midnight, circles to that apex point 4 minutes earlier next night. During the 4 minutes expiring at midnight the whole 360 degrees of the Zodiacal circle turn one-day-notch as the "degree" of sky measure. In 10 nights (counted on the hands) the current star passed 10 degrees west of the apex meridian. Each successive 10 nights' range of apex passing stars, the pyramid priests grouped by a distinctive boat-like sky arc, under which they inscribed a celestial boat man with the stars passing during his 10 days—as proved by the Egyptian calendar reproduced on Plate 22. Three of those 10-day-weeks (decades) they grouped into each of their always equal 30-day months; 12 of which embraced 360 days; beyond which they had 5 days of year-end festival in ordinary years, or 6 of such days in leap years, ended by the fleeting of the pyramid's shortest shadow. When comparing the Egyptian zodiacal calendar with the Aztec calendar stone in Plate 21, it is important to bear in mind that each ancient nation had to evolve its native calendar and keep it secret from enemies; who without true calendar knowledge were subject to famines through irregular sowing times, etc.

The circular courses of the sun and stars led Egyptians, Aztecs, and other nations to devise circular calendars.

that the ever constant heavenly winds wafted the zodiacal stars across the sky in inverted boats, each measuring 10 degrees in length. These, they sculptured as the 36 sky-roof boat spans measuring their "Houses in the Heaven," as pictured in Plate 22. To distinguish the seasonal dates for each of the 10-day arcs, they inscribed 36 different grotesque boatmen, adorned with masks by which the calendar-regulating priests throughout Egypt could identify the first

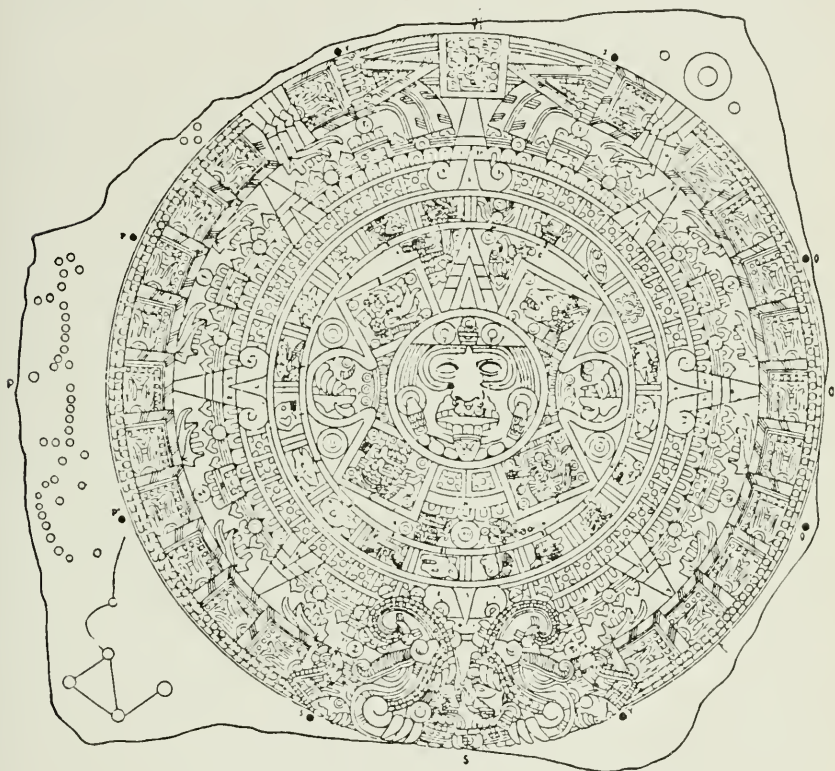


PLATE 21.—THE MEXICAN AZTEC CALENDAR STONE.

This celebrated American calendar is so well known that it need not be described. The circular form proves that to the Aztecs, as surely as to the Egyptians, nature indicated the seasonal dates by the arc circuits of the sun and stars.

The significant midway circle of unbroken sequence, to which the attention is specially directed graphs their always equal months of 20 days, most conveniently quartered by their five-day weeks at the four cardinal points of *N*, *S*, *E*, and *W*.

day of each of the recurring 10-day periods in every year. Those boatmen were made all the more impressive by sculpturing above their respective heads the passing stars and zodiacal signs.

Egyptian priests could not communicate quickly over long distances; but by using this easy code, first on papyri and later on the temple roofs, they could simultaneously assemble in or around their 1,000-mile range of temples, the local chiefs and overseers, when by the 10-digit counts of their hands they could impress upon their

hearers' minds what to do during each 10-day week. They must prepare the ground for certain crops, sow seeds for others, harvest still other crops, mate their domestic animals, and so on, precisely as the Egyptian daily calendar prescribed.

By these means everything was done in season; the best crops were secured, and—in the case of their upper "Sharake" lands—three crops of the most useful grains were obtained without impoverishing the soil so constantly refertilized by the Nile. This explains why there was always "corn in Egypt."

The central source of all such governing knowledge was zealously guarded and secreted by the priests of the Great Pyramid, who knew that, by the shortest noon shadow's interday counts, the ordinary year's 5 last days (and leap year's 6 days) shadowed beyond the 360 days were tallied beyond their 12 equal months of 30 days each.

Lack of space prevents explanation of the interesting evolution of the constellations which became possible only after centuries of continuous research, guided and measured at the precise seasons along the edges of all the four 600-foot long, equally inclined slopes of the pyramid, when viewed from the serial observation points along its four truly oriented base lines.

The result of those centuries of observation, study, and charting are evidenced in Plate 23, which shows the path of the sun crossing the equator and meridian at different seasonal points along the ecliptic. Its black notches mark the 365 points indicated midnightly by the pyramid's apex among the stars, and it records between that path's white notches the precise apex locations opposite which, at 180° , the sun radiated its light on the 365 preceding noons.

In Central and South America, the Aztecs, Mayas, Peruvians, and other ancient races in like manner devised calendars to meet the agricultural and other needs of their people. This is evidenced by the well-known Aztec calendar stone shown in Plate 21. But as these American races lived much nearer to the equator where the Egyptian type of pyramid observatory would have necessitated steeper slopes than it was possible for them to build to the angle of the sun's noon altitude at the equinox, those ancient American races could not do better than build their open step pyramid observatories to the moderate heights needed to keep in approximate touch with the yearly seasons.

During earlier generations they, like other races, passed through the moon counts and the evolution of expanding years derived by locating the seasonal points of the sunrise on the horizon's curve and counting days between midsummer and midwinter, as their stone circles, etc., in New Mexico prove, until they, like the Egyptians, later derived truer calendars by equinoctial observations at their pyramids.

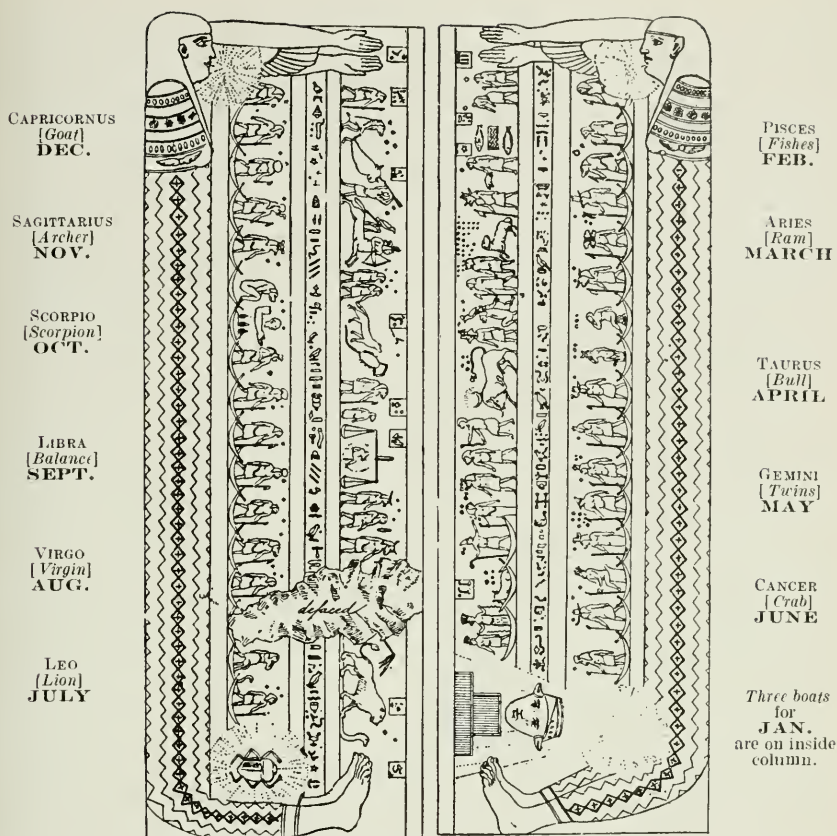


PLATE 22.—ANCIENT EGYPTIAN CALENDAR OF TWELVE MONTHS, SHOWN BY SIGNS OF THE ZODIAC, ETC.

This reproduction from the temple at Denberah is similar to others at Esneh, Ed Dayr, etc.

It is an early representation of that ancient calendar system which the Egyptian priests kept profoundly secret until their descendants were induced to engrave their zodiac in the temples to satisfy their Greek benefactors.

Herodotus, the chief historian of ancient Greece, records that "The Egyptians were the first to discover the solar year and to portion out its course into twelve parts. They obtained their knowledge from the stars."

Each of the 36 boatmen of the "astronomical houses" shown above wore distinctive masks, easily remembered by the priests who, teaching along the more than 1,000-mile length of Egypt, instructed farmers and overseers on the first of each ten-day period what to do during those ten days, as indicated in the following, which refers to ten September days:

"Sow turnips and beets. Separate ewes from rams. Fishes spawning. Sow clover. Gather cotton and olives. Day and night equal, autumn begins. Nile highest, open water channels. Women make syrups of fruits, men sow barley. Sap of trees recedes. Store fruit and sow winter vegetables."

The two top boatmen are partly haloed by sun rays, three are ranged above the barred mastaba, while the one carrying the Virgin has been defaced.

EGYPTIAN ORIGIN OF OUR CALENDARS.

Our Julian and Gregorian calendars were derived from the Egyptians after the latter had been conquered by the Romans and were

obliged to inform Julius Caesar of their 360-day calendar of twelve 30-day months, beyond which extended the 5 days of festival holidays. These latter Julius unfortunately caused to be moved as the thirty-first days of January, March, May, September, and November, respectively, "because odd numbers were lucky" and he wanted the Romans to be unaware of the fact that his calendar was derived from the conquered Egyptians.

Sosigenes, the Egyptian astronomer, tried his best to induce Julius Caesar to realize the superior advantages of equal months equally divided into 10-day periods or weeks; but Julius autocratically ruled that the odd 5 days must be made the odd-numbered monthend dates recorded above.

The practical benefits of the fixed Julian calendar were so highly appreciated throughout the Roman Empire, which was thereby relieved from partial crop failures caused by the twelve-moon calendar, that the Senate renamed Julius Caesar's birth month Julius (July) in his honor. Its length was 31 days, and as his successor Augustus happened to have been born in the following month and wanted to have his birth month named after himself, and to be historically known as also having altered the calendar, he therefore insisted upon depriving February, which then ended the Roman year, of its twenty-ninth day to make August 31.

This gave 93 days to the third quarter of the year, and unfairly reduced the first quarter year to 90 days. As rents were then charged quarterly, the Senate requested him to restore the twenty-ninth of February, but Augustus, the Autocrat, said, "No, you can have the same days as before in my quarter by moving September 31 to make October 31," which they did. That again caused two 31-day months to come together, so after further complaint Augustus moved November 31 to be December 31.

THE CALENDAR'S DEFECTS CAUSED BY THE ROMAN CAESARS.

These facts prove that our calendar's inconveniently unequal months were arbitrarily fixed into those erratic lengths to suit the foolish whims of the Caesars. They were not fixed by the sun's seasonal indications, nor in accordance with the transit of the stars across the 12 astronomic sectors measuring off the zodiacal star groups, as is erroneously supposed by people generally throughout the world. Julius Caesar should have kept Roman numbers instead of names for months. He made a more trivial mistake by beginning the year nine days late, because he selected the moon sign, by which all in the Roman Empire were to begin using the Julian calendar, when it began nine days after the shortest day.

This latter slight deflection does not adversely affect the Gregorian calendar users, because the coldest days recur in January, and the

important crux of the civil calendar construction is to maintain the same number of days between the first day of the year and the equinoctial day, March 21.

Now that the Russians, Siberians, Turks, Chinese, Japanese, Indians, Egyptians and some adjacent nations have, since the World War, adopted the Gregorian calendar for governmental, legal, and other national purposes, it would be folly to attempt to revert nine days so as to end the year on the shortest day, especially as this would cause much daily annoyance and the risk of error to the astronomers of all nations without any adequate compensating advantage. It is therefore not worth further consideration, unless necessary to persuade Mohammedans universally to use the international fixed calendar.

But the failure of calendar-revising Caesars to fix equal months, which the weekly 7-day unit should have evenly quartered, has caused all civilized nations much and long-continued inconveniences, to be later set forth. These arose little by little after Constantine the Great, about 321 A. D., conferred the great boon of the 7-day week and Sunday rest upon Europeans. He failed, however, to foresee the further practical advantages which could then most easily have been given, by separating New Year's day and leap-year day from week days and fitting the 52 weeks into 13 four-week months. Had he done this, the confusion caused by the fact that December 31, for instance, has the same week-day name in any one year (except leap year), as the preceding January 1, and that in leap year the extra day pushes the week-day names still another day forward, would have been entirely avoided.

A further needless factor of change was caused by the unfortunate moon wanderings of Easter sanctioned by the Roman Church Council at Nicaea, Asia Minor, A. D. 325; simply because the priesthood and pilgrims then needed the moonlight in land and sea travel, by night, along the rocky unlighted coasts and islands on the way to their great yearly Easter festivities.

While moon wandering Easters affect North America but slightly, they adversely affect business, educational, social, and legal affairs in South and Central America, as well as in Europe, much more than is generally supposed.

It is a most significant fact, however, that the Gregorian calendar is used throughout the three Americas, that is to say, throughout the entire western hemisphere, in which the diverse populations drawn from nearly all the races and creeds of the other continents are in complete accord in this matter. Moreover, such able Pan Americans as Don Carlos Hesse, the astronomer at Iquique, Chile, have strongly advocated the proposed "fixed calendar." It would seem, therefore, only logical that the Pan American nations should assem-

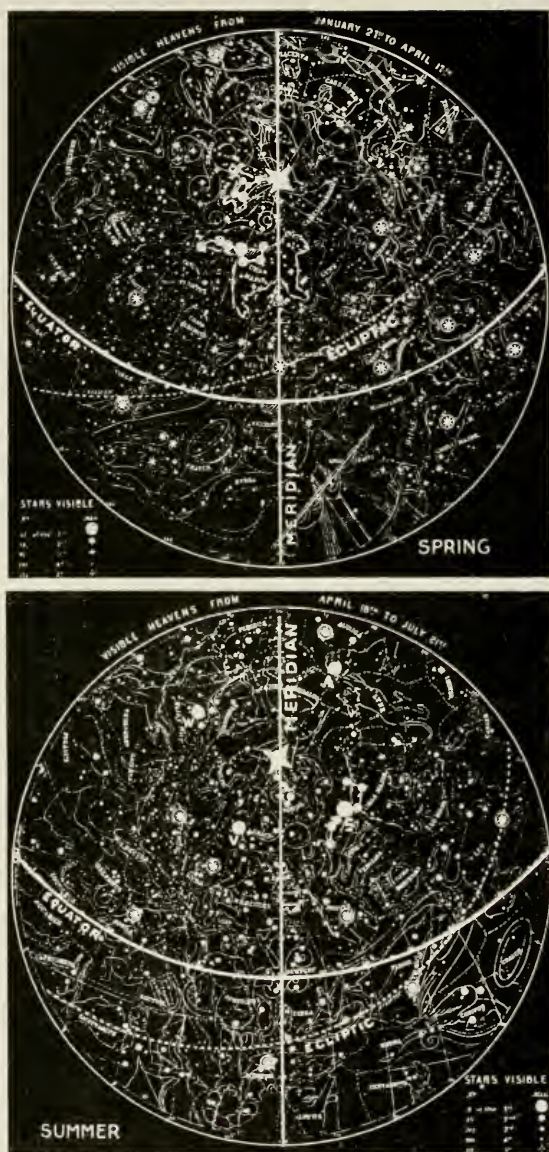


PLATE 23.—SPRING AND SUMMER MAPS OF THE STAR GROUPS IN THE CELESTIAL SPHERE, MOSTLY VISIBLE THROUGHOUT EUROPE, ASIA, NORTH AMERICA, AND NORTH AFRICA.

The vertical dotted line through the pole star and zenith is the local celestial meridian dividing each map into east and west halves. The part-circle crossing the meridian at right angles midway between the zenith and the south horizon is the celestial equator. The longer segment of the black-and-white dash circle cutting the meridian and equator obliquely registers the sun's path along the ecliptic. It was marked off in daily notches, white for noon and black for midnight, as each nightly cog thereof (see Plate 20) passed the apex of the great pyramid four minutes before the twenty-fourth hour of observation during the evolution of star calendars by pyramid priests about 5,000 years ago. That never-ending year-traversing ecliptic circle double-crossing the equator led the early Chinese to select the double-curve bisected circle as their emblem for eternal life.

On the upper star map for spring, the constellations of Ursa Major and Ursa Minor, commonly known as the Great Bear and Little Bear are outlined as bears, with their respective 7 and 6 "Stars of the Plough" shown with very long unbear-like tails and saddleback stars separately outlined by indicator-lines.

Those stars are also emphasized on the summer map to exhibit the seasonal change of location on their circumpolar course.

They were very widely used by calendar-makers in primitive races, who had not evolved the truer method of pyramid observations which won more practical agricultural and social benefits for the more enlightened civilizations in Egypt, Assyria, India, China, and Central America.

The brighter fixed stars of the first magnitude around which their neighbor stars were grouped into constellations by pyramid observations are shown bolder and encircled.

Their constellation outlines are traced around them to facilitate identification as they circle through the seasons around the celestial pole, which I have four-rayed to the four season-dividing locations of the Great Bear's tail-root-star, shown by the four white disks added to the summer map.

"A" denotes autumn location Sept. 23.

"W" denotes winter location Dec. 27.

"V" denotes spring location Mar. 21.

"S" denotes summer location June 22.

The circumpolar movements of North Stars seem to move contrary to watch-pointers, because to trace their course, the pyramid priests had to observe them while looking north up the south slope of the pyramid; whereas their zodiacal calendar shown on Plates 20 and 22, were derived by looking up the north slope to the equatorial stars of the Zodiac which thus appear to move clock-wise.

The east and west slopes of pyramids were needed to locate by degrees the celestial latitudes of the courses of stars rising and setting north and south of the celestial equator.

The pyramid's four slopes 600 feet long, towering 484 feet high, were necessary to group stars into constellations, as now astronomically used by all nations for land surveys, navigation, etc.

After the calendar was developed and astronomy was thus derived by pyramid observations into a scientific system which astronomers could use all over the world, there ceased to be any further use for pyramids, which consequently lapsed into disuse, after the pyramid priests were killed by the "shepherd kings" who invaded Egypt before the time of Abraham.

ble the proposed international conference to still further improve that most widely used of all calendars so that it will become by the united efforts of all nations the best international "fixed calendar," universally operative and beneficial to all mankind. The fact that standard time was internationally established as the result of such an international conference, called by the President of the United States in 1882 at Washington, D. C., where the countries of the Americas have located their great Pan American Union, in which the recent Conference for the Limitation of Armament so successfully completed its great achievement, raises the hope that the international conference to improve our calendar will also be held in that city some time during 1923. Some of the many practical reasons for calling that calendar conference are summarized in the following outline of *our calendar's defects*:

1922 JANUARY 1922						
SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

FEBRUARY						
SUN	MON	TUE	WED	THU	FRI	SAT
						1
						2
						3
						4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28				

MONTH	1 st WEEK	2 nd WEEK	3 rd WEEK	4 th WEEK	5 th WEEK	6 th WEEK	MONTH
	SMTWTFSS	SMTWTFSS	SMTWTFSS	SMTWTFSS	SMTWTFSS	SMTWTFSS	SATURDAYS
JAN	1 2 3 4 5 6 7	8 9 10 11 12 13 14	15 16 17 18 19 20 21	22 23 24 25 26 27 28	29 30 31		JAN
FEB	1 2 3 4	5 6 7 8 9 10 11	12 13 14 15 16 17 18	19 20 21 22 23 24 25	26 27 28		FEB
MAR	1 2 3 4	5 6 7 8 9 10 11	12 13 14 15 16 17 18	19 20 21 22 23 24 25	26 27 28 29 30 31		MAR
APR		1 2 3 4 5 6 7 8	9 10 11 12 13 14 15	16 17 18 19 20 21 22	23 24 25 26 27 28 29 30		APR
MAY	1 2 3 4 5 6	7 8 9 10 11 12 13	14 15 16 17 18 19 20	21 22 23 24 25 26 27	28 29 30 31		MAY
JUN	1 2 3 4	5 6 7 8 9 10 11	12 13 14 15 16 17 18	19 20 21 22 23 24	25 26 27 28 29 30		JUN
JULY		1 2 3 4 5 6 7 8	9 10 11 12 13 14 15	16 17 18 19 20 21 22	23 24 25 26 27 28 29 30 31		JULY
AUG	1 2 3 4 5	6 7 8 9 10 11 12	13 14 15 16 17 18 19	20 21 22 23 24 25 26	27 28 29 30 31		AUG
SEP	1 2 3 4 5 6	7 8 9 10 11 12 13	14 15 16 17 18 19 20	21 22 23 24 25 26 27	28 29 30 31		SEP
OCT	1 2 3 4 5 6 7	8 9 10 11 12 13 14	15 16 17 18 19 20 21	22 23 24 25 26 27 28	29 30 31		OCT
NOV	1 2 3 4 5 6 7 8 9	10 11 12 13 14 15 16	17 18 19 20 21 22 23	24 25 26 27 28 29 30			NOV
DEC	1 2 3 4 5 6 7 8 9	10 11 12 13 14 15 16	17 18 19 20 21 22 23	24 25 26 27 28 29 30 31			DEC

Unequal months split the weeks at month-ends most awkwardly, causing many inconveniences.

Monthly dates, showing the broken weekly range during the year 1922, which includes 42 complete and 21 broken weeks, including also the "odd day," Dec. 31. The latter by being Sunday, like January 1, forces the inconvenient change of week-day names in all the months and years which follow:

Compare week-day dates in the first four weeks of January with day names pushed three days forward in the dislocated four weeks of February.

We need a monthly measure in which the day names, with regard to the numerical dates, will be "fixed."

DEFECTS OF OUR CALENDAR.

1. We earn and pay by the month, but have not an equal monthly measure, except for prisoners, whose time is counted in months of 30 days.

2. Our months vary from 28 to 31 days—11 per cent difference—yet the same monthly salaries, rents, etc., must be inequitably paid. Monthly business charges for maintenance, depreciation, etc., are unfairly apportioned, and monthly profits credited as though each month were productively one-twelfth of the year.

3. The confusing changes in week-day names for the same dates in successive months, through the intrusion of New Year and leap days,

cause further disparities which are misleading in business, as evidenced when comparing monthly output of full working days from Monday to Friday, plus a half day on Saturday. On this basis March, 1922, has 14 per cent more earning time than February, which is only one-thirteenth of the year.

4. The changing week-day names bring Christmas, New Year, and other holidays on Sunday and into weeks which they split, depriving toiling millions in all countries of the more-prized holiday extensions combined with week ends.

5. The shifting range of weeks through the months (as displayed in above chart for 1922) burdens business and social life with many tiresome references, limitations, and troubles. A few examples here may suffice:

We are constantly forced to consult the calendar to trace how many weeks intervene between any given dates, and to ascertain the weekday names throughout the months. Periodical business and social meetings held on selected weekdays have to be described in by-laws, etc., as the "first and third Wednesdays," "the Friday nearest the twentieth," etc. Dates for national holidays, festivals, etc., falling on Sundays have to be postponed by proclamation, etc. Bank drafts, trade bills, etc., due on Sunday have to be held over, and one day's interest thereon lost. Monthly trade balances, wage adjustments, etc., are complicated by weekly wages being split up in the weeks which, beginning in any one month, quarter, semester, or year, end in the next following. Nine of the months extend into five weeks, and three into six, as a glance at the chart will show.

6. There were five Saturdays each in January, April, July, October, and December, 1921, when housekeepers were calendar-forced to buy a fifth week's supply of meats, groceries, etc., out of equal monthly income quotas. Many thus trend to fall into debt, or seek to "sub" from husbands who are also found shorter of cash at the end of the longer months. These shortages result in family, business, and other troubles, directly attributable to the unequal months of our calendar.

7. Conversely, storekeepers in the months of five Saturdays are encouraged by their inflated incomes to overbuy, which is apt to cause trouble the next month when fewer Saturdays and sales fail to provide sufficient income to pay for the longer month's purchases, with the resulting tendency to force retailers and others into debt, etc.

8. The inequalities in halves and quarters of years are confusing, developing the following unjust differences in 1922:

	Year.	Half years.	Quarter years.
Week days.....	365	181-184	90-91-92-92.
Work days.....	286½	142-141½	70½-71½-72½-72.

9. Moon wandering Easters move the latter and other festival dates erratically forward and backward, making school, college, legislative, and other periods of unequal lengths and causing much inconvenience and loss.

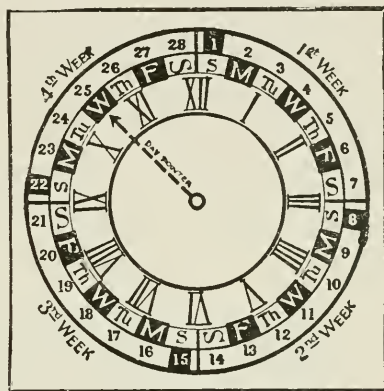
All calendar periods for earning and spending can be made equal, and thus help to increase employment, to circulate money, to stabilize business, and to benefit home life.

TO REMEDY CALENDAR DEFECTS.

Every nation now calendars the days of the year in 7-day weeks, although weeks were not in use when the different calendars of un-

THE STANDARD MONTH.

THE NEW (13th) MONTH "SOL" to measure all months, and form our "YEARAL" of 13 months, thus:						
SUN	MON	TUE	WED	THU	FRI	SAT
*1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28



THE STANDARD MONTH: THE REMEDY FOR CALENDAR DEFECTS.

"Sol" 28 days long; 4 complete weeks. Every month will be like this new month. Every month will cycle through its 28 days, ticked off by the "Day-pointer."

equal, inconvenient months were imposed upon our ancestors by the Roman Caesars nearly 2,000 years ago.

We can not alter the length of the days, weeks, or years, but we can easily amend the months, so that each, like February in 1914, will contain 28 days in 7-day weeks, which exactly and best quarter the month for business and social convenience. That ideal month is the standard proposed, because it is not an experiment but the easiest and best now used. To expedite long counts of days between any two dates, it would be better to *number*, instead of to *name*, the months; but if names are more desirable, the new month "Sol" could be inserted between June and July as readily as "leap day" was inserted between February and March, 1920.

This proposed new month, with the other 12 equal 28-day months, will constitute the amended calendar year proposed, after "New Year Day" (without any week day name) is prefixed as an extra whole

Saturday or Sunday holiday to precede the 1st of January, in which month New Year Day will be included as "January 0."

This will absorb the extra week day (over and above the 52 weeks) which now needlessly and most inconveniently causes the names of all week days to change throughout the successive 365 dates of each year. In leap years, leap day should precede either "Sol 1" or July 1 as "0," being in either case an extra Saturday international holiday with no week day name.

When these changes are made, it follows that the same day in each week will always fall on the same four fixed dates each month, so that each week day name will always denote its monthly dates, and vice versa, as the "standard month" shown on page 569 would then apply to all months.

A less essential change is the proposal to abolish moon-wandering Easters by the international churches fixing Easter at the most convenient date in April—each nation being free to fix its own legal and other holidays and festivals on the dates it may select for that purpose.

In conformity with the foregoing, the International Government Conference of all Nations¹ will be assembled, in the near future, to select the best working plan that can be internationally devised in order to:

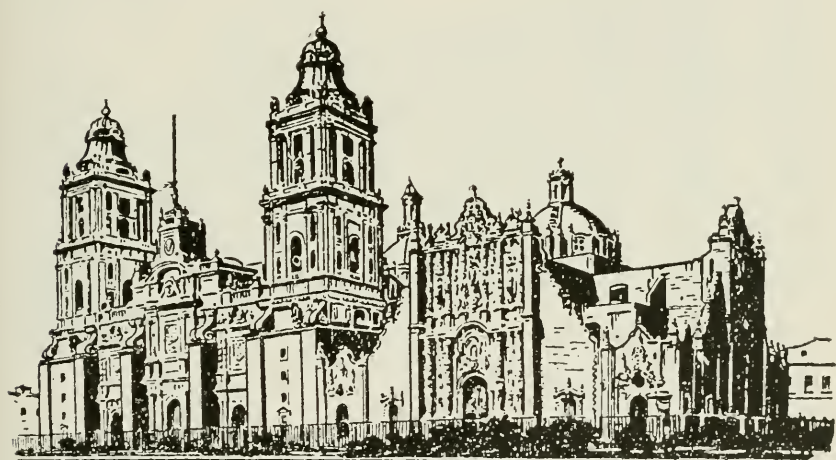
1. Separate New Year Day from week day names.
2. Move leap day to be a midsummer holiday.
3. Decide the best arrangement of 52 weeks in months.
4. Name the 13th month, if naming is preferred to numbering months.
5. Accept the date for Easter selected by the churches.
6. Set the date when the fixed calendar shall begin (probably 1928).
7. Draft joint recommendations for the above into legislative form to be passed by the legislature of each nation, so that the calendar can be printed for use on and from the date agreed upon. From that date all day names will become fixed to dates; all times for earning and spending, statistical comparison, etc., will be equalized; and all calendar-caused troubles will cease. In addition to these improvements, the change to a month of 28 days from alternate 30 and 31 day months will cause 9 per cent more circulation of all monthly moneys now used for monthly accounts, salaries, rents, etc. (without any increase in capital outlay), and thereby increase business and social prosperity.

¹ See *Time to Fix the Year*, 132 pp., illustrated, which can be obtained from the offices of the *International Fixed Calendar League* in Washington, D. C., Vancouver, B. C., or London, England.

SUMMER SCHOOL COURSES IN THE UNIVER- SITY OF MEXICO

I.

AMONG the many evidences of a genuine renaissance in everything pertaining to public education and national culture in Mexico none is more immediately and definitely convincing than the summer school courses offered by the University of Mexico.



CATHEDRAL AND SACRISTY, MEXICO CITY.

These courses have been organized by the University faculties primarily with the object of affording foreigners in general, and more particularly those from the United States and Canada, an opportunity of perfecting their knowledge of the Spanish language and literature; and secondarily, that teachers and students from the neighboring republics of North and Central America may visit Mexico and become better acquainted with the history, manners, and customs of the people of this great Republic.

Perhaps no country in Spanish America has so much to offer as Mexico to the serious student of Spain's great civilizing and cultural contribution to the New World, as evidenced in the language, religion, jurisprudence, and architecture of her colonies. Certainly

none offers more, particularly in architecture. Cities like Mexico, Puebla, Querétaro, Morelia, and Guadalajara are notably rich in monumental and beautiful examples of the Spanish colonial type, as also of the more ornate Chiriguernesque, many of which date from as far back as the XVIth century.

The viceroyalty of Mexico flourished greatly under the Spanish régime; in whatever direction the foreign visitor turns his steps will be found traces of colonial splendor, not alone in the more obvious and material of human activities, but in those less tangible yet infinitely more expressive activities of the national spirit known as art and literature. In lyric verse Mexico yields place to none on the



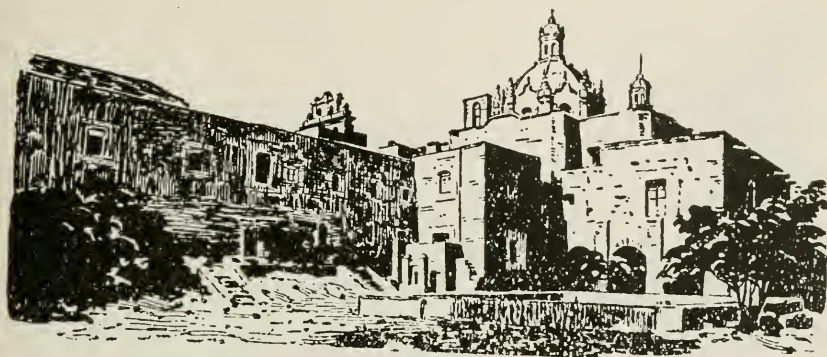
SCHOOL OF MINES, MEXICO CITY.

Western Hemisphere, as witness Amado Nervo, Sor Juana Inés de la Cruz, Gutiérrez Nájara, Salvador Díaz Merón, Justo Sierra, Manuel José Othón, and Enrique González Martínez,—to name but a few of the many whose works are known wherever Spanish is spoken.

There will be no lack of interesting and picturesque material and atmosphere, over and above that provided by the summer school courses, for those who enroll themselves in the latter. Rather will it be a continual embarrassment of riches, and the daily problem one of how best to choose from the extraordinarily full and attractive program which has been prepared.

ORGANIZATION OF THE SUMMER SCHOOLS.

The university offers two separate summer school courses, both of which will be held in Mexico City, one extending from July 12 to August 25, the other from July 26 to September 9. So far as the subjects offered are concerned there is very little to choose, as they are



EL CARMEN CHURCH, SAN ANGEL, FEDERAL DISTRICT, MEXICO.

practically the same in both courses. Moreover, the latter are so arranged that students doing intensive work may duplicate their work.

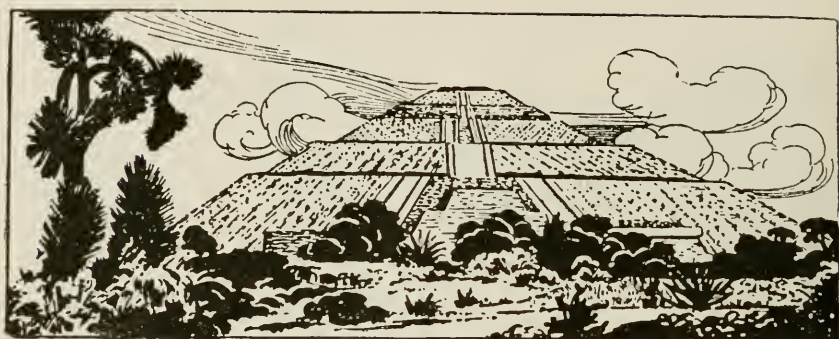
The classes will be given in the "Rectoría" and post-graduate school of the university, the summer schools headquarters being located in the same building, in the University Exchange Department. Classes and lectures will be given daily from Monday to Friday, inclusive, Saturday and Sunday being reserved for visiting museums and for excursions to points of historic or artistic interest.



CONVENT OF TEPOZO TLÁN, STATE OF MEXICO.

SUBJECTS INCLUDED IN THE COURSES.

The courses include Spanish grammar, phonetics, philology, and literature; geography and natural history of Mexico; Spanish American and Mexican history; some consideration of the political, juridical, educational, and social development of Mexico; Spanish and Mexican art,—architecture, painting, sculpture; Mexican archaeology, and commercial instruction. It should be noted that the school of music is under the direction of the president of the last International Musical Congress in Italy; while the school of art is under the well-



PYRAMID OF THE SUN, TEOTIHUACÁN, STATE OF MEXICO.

known artist, Ramos Martínez. Since most of the professors in these two schools speak English, a knowledge of Spanish is not obligatory on the part of students availing themselves of this opportunity for the study of their art in a new and stimulating environment.

MEMBERS OF THE SUMMER SCHOOLS FACULTY.

Rector of the National University of Mexico: Antonio Caso, doctor honoris causa of the University of Rio de Janeiro (Brazil), member of the International Institute of Sociology of Paris and of the Mexican Academy.

Director of the Summer Schools: Pedro Enríquez Ureña, Ph. D., professor in the University, ex-professor of the University of Minnesota.

Councillor: Federico de Onís, Ph. D., professor, University of Salamanca (Spain), and Columbia University.

Secretary: Manuel Romero de Terreros, Marquis de San Francisco, member of the Mexican Academies of Language and History.

Assistant Secretary: Daniel Cosío Villegas, professor of sociology, University of Mexico, president of the International Federation of Students.

The following is a list of the professors and instructors:

Abel J. Ayala, ex-Director General of Public Instruction.

Luis A. Baralt, jr., Ph. D. (University of Habana), M. A. (Harvard University).

Adolfo Best, chief inspector of drawing in the Department of Public Education.

Honorato Bolaños, professor of history, University of Mexico.

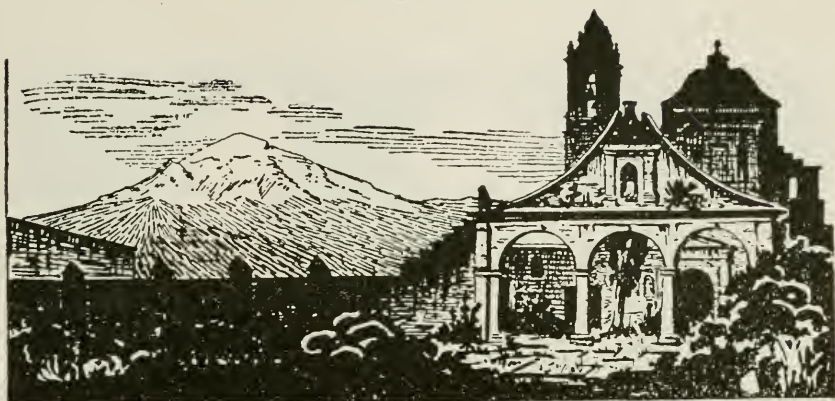
Alfonso Caso, professor of philosophy, University of Mexico.

Luis Castillo Ledón, director of the National Museum of Archaeology, History, and Ethnology.

Eduardo Colín, ex-professor of literature, University of Mexico.

Daniel Cosío Villegas.

Jorge Juan Crespo, professor of languages, University of Mexico.



OZUMBA, MEXICO STATE.

- Carlos Díaz Dufoo, jr., professor of philosophy, University of Mexico.
 Jorge Enciso, Inspector of Artistic Monuments.
 Ofelia Garza, instructor in Spanish, University of Mexico.
 Ricardo Gómez Robelo, Chief, Division of Fine Arts, Department of Public Instruction.
 Carlos González Peña, professor of Spanish, University of Mexico; member of the Mexican Academy.
 Palma Guillén, instructor in psychology, Women's Normal School.
 Pedro Henríquez Ureña.
 Alba Herrera y Ogazón, instructor, National School of Music.
 Manuel Ituarte, professor of architecture, Mexican School of Fine Arts.
 Vicente Lombardo Toledano, professor of philosophy, University of Mexico.
 Ramón Mena, Chief, Department of Archaeology, National Museum of Mexico.
 Tomás Montañó, professor of languages, University of Mexico.
 Federico de Onís.
 Miguel Palacios Macedo, professor of history, University of Mexico.
 Carlos Pellicer Cámara, professor of Spanish, University of Mexico.
 José Pijoán, professor, University of Toronto (Canada), formerly instructor in the Advanced School of Architecture, Barcelona, and in the Spanish School in Rome (plastic arts).
 Manuel Romero de Terreros.
 G. Oscar Russell, professor of Romance languages, University of Utah.
 Mariano Silva Aceves, ex-secretary, University of Mexico.
 Salomón de la Selva, professor of languages, University of Mexico, ex-professor of Romance languages at Williams College.
 Jaime Torres Bodet, professor of literature, University of Mexico.
 Julio Torri, professor of literature, University of Mexico.
 Luis G. Urbina, professor of literature, University of Mexico.

CREDITS AND CERTIFICATES.

Students who have attended 80 per cent of the classes given in any one subject will receive a certificate of attendance; while those who pass the examinations and other tests as to progress given by the professors in the respective subjects will receive certificates giving the corresponding credits.



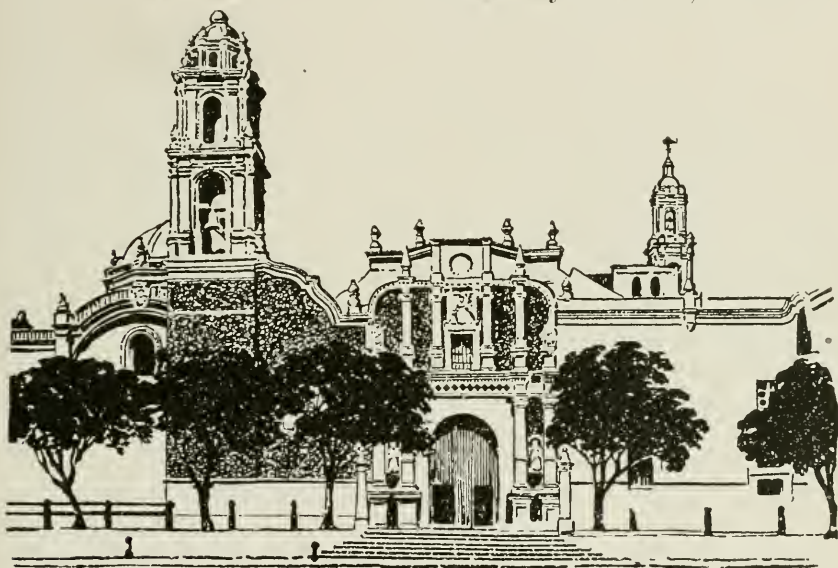
PATIO OF THE GOVERNMENT PALACE, QUERÉTARO, STATE OF QUERÉTARO.



CATHEDRAL AT MORELIA, STATE OF MICHUACAN.

TRANSPORTATION, ENROLLMENT, LODGING, AND EXPENSES IN GENERAL.

The Mexican Government will make a reduction of 50 per cent to all summer-school students traveling by the following rail routes: From Ciudad Juárez (El Paso) to Mexico City; from Piedras Negras, Texas, to Mexico City; from Laredo, Texas, to Mexico City; from the port of Manzanillo to Mexico City; and from the port of Vera Cruz to Mexico City (by the Interoceanic road). In order to obtain this discount prospective foreign students should apply in advance to the nearest Mexican consul, and those already in Mexico, to summer-



CHURCH OF SAN JOSÉ, PUEBLA, STATE OF PUEBLA.

school headquarters in the University of Mexico, where all enrollments will finally be made. The matriculation fees are:

1. For a course of five hours, weekly, \$10 Mexican currency.
2. For a course of three hours, weekly, \$6 Mexican currency.
3. For a course of two hours, weekly, \$4 Mexican currency.

The cost of lodging in Mexico City ranges from 5 to 8 pesos (peso \$0.49) per day in good hotels and *pensiones*. With but very few exceptions it is not the custom in Mexico to admit lodgers or boarders in private families, but the secretary of the summer school will supply a list of the hotels and *pensiones* in which lodging and table board may be obtained. Students are advised to go directly from the railway station to an hotel, leaving until later the question of finding a suitable room.

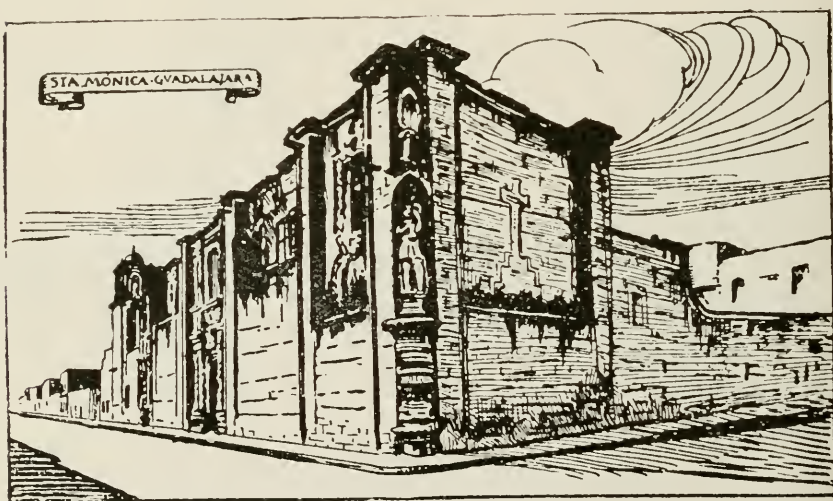
In this connection it is interesting to note that the University of Utah, which some time ago had registered 32 advanced students desirous of pursuing advanced studies in the summer school in Mexico

City, extends an invitation through the section of education of the Pan American Union to students from any other institution who may wish to accompany these students and take advantage of the special railroad and other arrangements which they will enjoy. The party leaves Salt Lake City, June 10, and may be joined there or en route to El Paso. The time between its arrival in Mexico and the opening of the University of Mexico summer session will be spent in sight-seeing and work preparatory to the advanced courses. A good hotel in Mexico City offers this party rooms at 2.50 pesos a day; two students may occupy one room.

II.

Other courses for those desiring to perfect themselves in Spanish in a Spanish-American atmosphere will be given this summer in Costa Rica and Porto Rico. The trip to the Central American republic, under the direction of Professor Santiago Gutiérrez of Ohio State University, and of his wife, a native Costa Rican, will have San José as its destination. There the courses in literature, history, and geography of Spain and Spanish-speaking countries, and kindred subjects will be given in cooperation with the Minister of Public Instruction. The round-trip fare from New York will be \$330, living expenses averaging about \$50 a month.

The University of Virginia has entered into an arrangement with the University of Porto Rico at Río Piedras, a suburb of San Juan, whereby credits for courses taken in the latter will be accepted at full value by the former. Frequent lectures will be given by distinguished Porto Ricans, and week-end trips will be taken about the beautiful island. The price of passage and all necessary expenses is fixed at \$300.



CHURCH AT SANTA MÓNICA, GUADALAJARA, STATE OF JALISCO.

THE NEW TRANSANDINE RAILWAY FROM SALTA TO ANTOFAGASTA¹ ∴ ∴

IT WAS decided some time ago that the opening up of the rich northern provinces of Argentina, by affording them a rail outlet to the Chilian port of Antofagasta, would be an enterprise mutually profitable to both the countries concerned. In consequence, it was resolved to commence construction, first on the Argentine side, of a new transandine railway line which, starting from the neighborhood of the city of Salta, would terminate at Antofagasta, after traversing the main range of the Andes, following approximately the traditional Inca highway through the mountains. The eastern terminal of the line connects with the existing Argentine State Railway system, a branch of which runs from Güemes, through the city of Salta, to Rosario de Lerma, this latter-mentioned township being the starting point of the new transandine line. This new line presents features of great interest, prominent among them being the low gradients which have been found feasible.

The northern provinces of Argentina which will be served by the new line are to-day very sparsely settled. This is due, to a very great extent, to the lack of a port outlet and to the enormous distances which separate them from the littoral. The center of the sugar-producing district is over 1,000 miles away from the city of Buenos Aires. The fertile plains and valleys of the region which the new line will open up make it one of the most promising in the world for future development, seeing that it produces every class of tropical and subtropical product, timber, cattle, and minerals.

The new line under construction will reduce the rail haul by about 700 kilometers. At the same time the sea haul to the United States ports will also be enormously reduced, considering that the distance from Antofagasta to Panama is only 2,200 miles. It is, moreover, anticipated that present trade routes will be very greatly modified by this construction, and that it will prove to be a factor of prime importance in promoting commerce between Argentina and the United States. Passenger traffic between the two countries also will undoubtedly increase, in view of the very appreciable reduction in time involved in the journey.

¹ From Review of the River Plate, March 10, 1922.

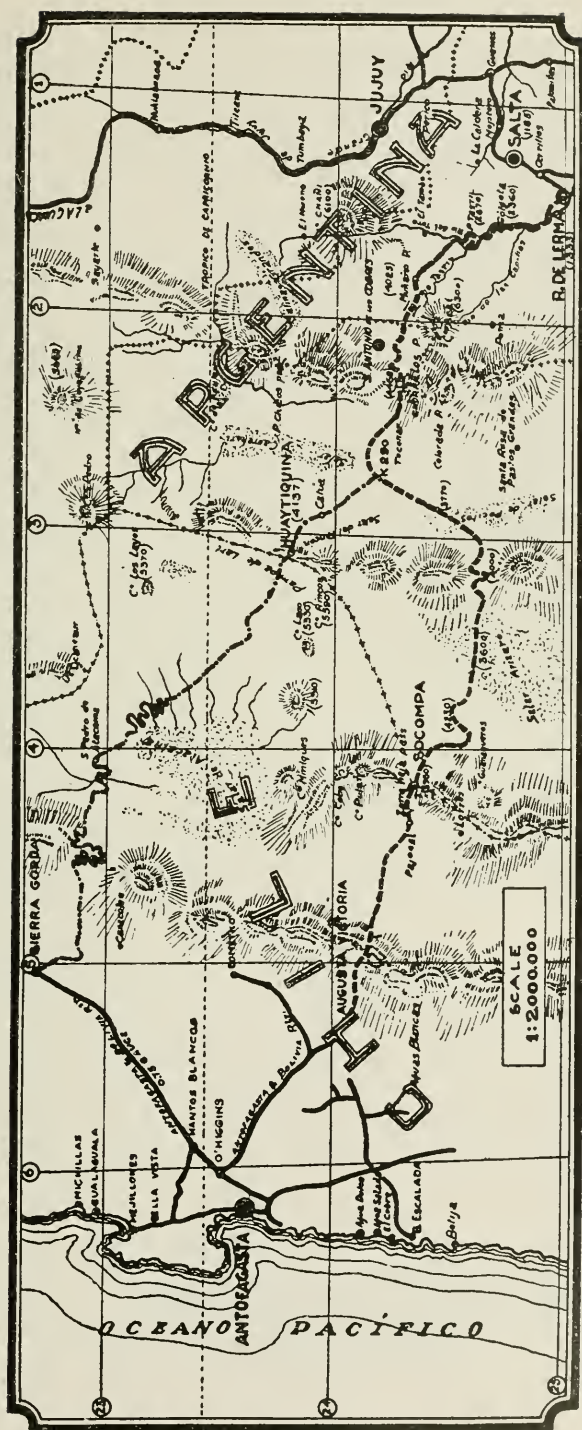
Taking the point of junction of the Argentine State Railway system at Güemes as a center, distances to the sea and to the United States and European ports are as follows:

Güemes to Buenos Aires.....	kilometers..	1,501
Güemes to Antofagasta.....	do....	756
Buenos Aires-Liverpool.....	miles..	6,258
Antofagasta-Liverpool.....	do....	6,770
Buenos Aires-New York.....	do....	5,838
Antofagasta-New York.....	do....	4,212
Buenos Aires-New Orleans.....	do....	6,255
Antofagasta-New Orleans.....	do....	3,620
Buenos Aires-Amsterdam.....	do....	6,370
Antofagasta-Amsterdam.....	do....	7,058

With regard to the increase in trade which this new route should bring about, Mr. Maury, the Chief Engineer of the Argentine section of this new international railway, expresses himself in optimistic terms. He predicts that north Argentina and east Bolivia will, in time, become large consumers of United States produce. The sugar industry, already on a firm basis, will acquire further impetus with the opening of the new route. Then, too, the existence of enormous fields of petroleum in the region has aroused the interest of American capital, and boring operations on a large scale have already been commenced. The output from these fields, Mr. Maury says, will in itself constitute a considerable source of traffic. He thinks it probable, also, that before very long a considerable proportion of the agricultural machinery used in Argentina will be imported by way of the new route. Mr. Maury thinks that the trade will not be all one-sided, as he affirms that the northern part of Argentina can become, in time, one of the great maize and cattle growing regions of the world. It is in anticipation of such developments that the new line, of which he is in charge, is being constructed to handle very heavy traffic.

Work on the Argentine section of the line was begun with great activity in April, 1921. The original surveys included several sections of track with gradients up to 7.5 per cent and normal grades of 3 per cent, but it was wisely determined to try for a 2.5 per cent line, compensated and with relatively easy curvature (150 meters radius). New surveys now being undertaken on this basis have reached the stage where it is possible to state that these standards will not be passed at any point. The work is being done by the State Railway organization, of which Mr. Domingo Fernandez Beschtedt is general manager and Mr. Arthur Acevedo chief engineer. Surveys and construction work are in the charge of Mr. Maury.

Leaving Salta, the line crosses the rich Lerma Valley for some 40 kilometers, and then interns itself in the gorge of the Rio Toro, which



Courtesy of the Review of the River Plate.

MAP SHOWING THE PROJECTED RAILWAY FROM SALTA TO ANTOFAGASTA.

The distance between Salta and Antofagasta, via Huaytiquina, is 910 kilometers; via Socompa, 800 kilometers. If the line is constructed via Huaytiquina, there remain to be built 326 kilometers of the Argentina section, and 385 kilometers of the Chilean section—a total of 711 kilometers. In addition, 170 kilometers of the section in Chile must be reconstructed. Of the Argentina section 29 kilometers—Rosario de Lerma—have been completed. In addition to the 29 kilometers already completed via Socompa, there must still be 486 kilometers constructed in the Argentina section and 135 kilometers in the Chilean section. It would be necessary, in Chile, to reconstruct 130 kilometers to full standard meter gauge.

it follows as far as Puerta de Tastil at kilometer 105. In the first 30 kilometers of the gorge of the Rio Toro, the rise of the river bed is, in parts, in excess of the maximum grade, and due to the impossibility of introducing development without recourse to rising tunnels, it was found necessary to employ two short sections of switchback, one of 1,200 meters and one of 800 meters, both placed at crossing stations to reduce operating difficulties to a minimum. At Puerta de Tastil (kilometer 105) the line leaves the Toro to swing directly west toward the coast, and here the principal difficulty was encountered. A table-land running in the right direction on practically maximum grade was found, but between its level and the bed of the Toro there exists a vertical rise of some 700 meters in an air line distance of 8 kilometers. Careful surveys of the region, of which a part were made by photostereoscopic methods, employing the Zeiss photo comparator, demonstrated the possibility of attaining sufficient development within the established grade, and at one point the line makes six spirals around a group of conical hills on practically a surface line. From a scenic point of view this is, without doubt, one of the most remarkable stretches of rail in the world. At the top of the climb, the traveler will have within his field of vision range on range of snow-covered hills, many of them 6,000 meters in altitude, while below him the line stretches away in eight distinct levels, the last being more than 2,000 feet below and so close that it looks as if a stone could be thrown into the river bed.

From here the line proceeds westward with very easy grade except at the crossing of the three distinct ranges in the Abra Blanca (4,100 meters altitude), the Abra Chorillos (4,500 meters), and the boundary line at the frontier, the crossing point of which has not yet been decided.

During the months of April to December, 1921, 90 kilometers of very heavy grading were finished with a total of more than 2,000,000 cubic yards of rock and hardpan. Likewise, during the same period 25,000 cubic yards of bridge and culvert masonry were completed. In this section some very heavy viaduct and tunneling work has been done, as well as side hill retaining walls. The lower stretches of the line are in a zone of torrential rainfall, and landslides will be the worst enemy of the constructor. In certain parts, to avoid difficulty in the future, the line has been carried under the mud slides in cut-and-cover tunnels, carried out in reinforced concrete. Possibly, considerable more work of this nature will yet be found necessary. In the higher altitudes, fortunately, the precipitation is very small, and there will be no difficulty with snow, a circumstance which places the new line at great advantage over the present Transandine Line in the Province of Mendoza.

The construction work is being given out on small contracts. The State Railway Department furnishes the equipment, and about 5,000 men, mostly Argentine "peones" from the mountain districts, are at present employed. These men are proving themselves extremely good workmen. The equipment includes 70-ton railway type Bucyrus shovels, very complete compressed-air equipment for the tunnel work and a large fleet of motor trucks. Well-mounted shops are being installed for the erection and repair of locomotives and plant, while in order to improve the living conditions of the workers, cooperative stores have been started, at which it is possible to purchase articles of good quality at cost price.

The gauge of the line is one meter, conforming to the gauge of the Argentine State Railway system, of which it will form a part. The line is being laid with 80-pound rails on red quebracho sleepers (1,500 sleepers to the kilometer). It is heavily ballasted with broken stone and gravel. Santa Fe type locomotives of 146 tons are being supplied by the Baldwin Locomotive Works. The first one has been delivered and is in service. Crude oil from the Argentine State Petroleum Workings is being used, and adequate installations for the storage of this fuel are in course of erection at Salta. So far work on the Chilean section of the line has not started, pending a decision regarding a variation of the originally projected route via Huaytiquina. The alternative proposed is that the line should cross the frontier via Socompa in order to connect up at Augusta Victoria (the important nitrate mine of the ex-*kaiser* of Germany) with an existing branch of the Antofagasta and Bolivian Railway. This branch line is of 75-centimeter gauge, and the idea is that it should be rebuilt to meter gauge and put into condition to cope with the heavy traffic of the Transcontinental Line.

Mr. Maury considers that the proposed variant would be very advantageous for Argentina, as it would reduce the distance between Salta and the sea by 10 kilometers, though it would mean increasing the Argentine section of the line by about 100 miles. This alternative is meeting with some opposition in the north of Chile on the ground that it would mean that the railway would not serve the richer mining regions and the only irrigated zone of that Republic.



PERUVIAN RAILWAYS

By OSCAR V. SALOMON,

Consul General of Peru, London, England.

WHERE the locomotive goes, man follows, and prosperity makes a brilliant third. The secret of Peru's slow progress in the past is to be found in this truth, for into the vast extent of her rich wilderness the locomotive has not gone, man has not followed, and prosperity has been denied her third place in the national economy. An organized railway system, which in other countries has given to development its momentum, has been wanting. Such a system would inevitably have accelerated the tapping of Peru's immense natural resources, linked up into a coordinate whole those centers of population which to-day remain in drowsy isolation, and called into being new towns and villages in commercially strategic spots where still reigns the silence of the wilderness. So long as the awakener of this wilderness—the locomotive—does not enter, so long will the great pampas refuse to yield the potential abundance of their golden soil, the cordilleras their illimitable wealth, and the leagues upon leagues of the montaña, the buried treasures of a world of which the mind of man is not yet conscious. When the business man of Mollendo, in the far south, can travel from his home town to Paíta, in the far north, stopping en route to do business without at any stage exchanging his comfortable Pullman for the back of an erratic and hazardous mule, then may Peru be truly said to have "arrived."

PERU'S EXISTING RAILROADS.

One thousand eight hundred and forty miles of railway in a country of 650,000 square miles, with a population of 5,000,000 is, in these days of railway expansion, ridiculous. But it would be a great mistake, as well as unjust, to suppose that in this matter Peru, like her wilderness, sleeps. Ever since, in 1848, she constructed the first railway in South America—that short stretch of 10 miles connecting Callao with Lima—the Government of Peru, keeping steadily in view the vital necessity of railways as the key to the country's progress, has striven to allow no year to pass without its quota of laid rails. And these endeavors have not lacked the assistance of men of other lands who have felt, equally with Peru, the powerful attraction of that stored mineral wealth and

that unlimited potentiality which the pampas, the Andes, and the montaña never fail to exert upon the minds of the supermen * * *. Such a superman was the American, Henry Meiggs, to whom Peru owes her two principal railway systems, the Central and the Southern. In a country where the stupendous mountain ranges, full of hidden wealth, present to the ordinary mind insuperable engineering difficulties, Meiggs saw only the engineer's victory. His Central Railway, from Callao to the highest point of the Cordilleras, 3 miles above sea level, passes over 67 bridges, bores tunnels a mile or more long, emerging to cross bridges suspended hundreds of feet above gloomy ravines, like that which spans the Varrugas ravine, 300 feet high and 575 feet long, its central span being 235 feet in length and resting on two vertical towers each 175 feet high: or the Chaupichaca bridge, 365 feet long, 200 feet above the chasm where the train, emerging from one tunnel, rushes across this airy structure to enter at once another mountain tunnel. This railway, called also the "Oroya," is 240 miles long and cost £5,000,000. It is wisely and efficiently managed, and produces a profit. Meiggs was also the founder of The Southern Railway of Peru. But between the railheads of these two main lines—the Central at Pampas and the Southern at Cuzco—there is a gap of some 250 miles where the locomotive does not go, but which the Government is determined to connect up.

Besides these two main lines, the ports along the coast can show many short lengths, each independent, and there is also a considerable mileage of narrow-gauge lines which serve the sugar, cotton, and other interests. But all these small ventures, while aiding the general economy, are merely drops in the ocean of that transport whose network of lines should, and must eventually, cover the whole of Peru's vast area. When that great day arrives the pampas will bloom, the Cordilleras give up their treasures, the montaña its incredible wealth, while all along the line will spring up new centers of population. Moreover, between the Atlantic and the Pacific—between Brazil and the Argentine on the east and Peru on the west—stands the hitherto impassable barrier of the high Andes. This barrier, like every other barrier that nature has placed in the path of man, must yield to his advance.





THE S. S. "PAN AMERICA."

The S. S. "Pan America," one of the newest of the United States Shipping Board Fleet, was launched at Baltimore and had her trial trip February 17, 1922. On February 26 the steamer went to New York to undertake regular sailings in the service operated by the Munson Steamship Line, for the United States Shipping Board, to the east coast of South America, making regular stops at Rio de Janeiro, Montevideo and Buenos Aires, together with Santos, northbound. The vessel sailed March 4 on her maiden trip to South America, on which occasion members of the Latin American diplomatic corps in Washington were present. Sr. Dr. Tomás A. Le Breton, the Ambassador of Argentina, and Dr. L. S. Rowe, Director General of the Pan American Union, made short addresses.

The ship has a displacement of 21,000 tons, is 535 feet long, 72 feet beam and 50 feet deep. The machinery is powerful and reliable and drives the vessel at the average rate of 17½ knots. The oil-burning ship is much cleaner and more desirable than the old type of coal-burning ship formerly employed in the South American service.

On the S. S. "Pan America" accommodations are provided for 413 passengers—239 first-class and 174 third-class. The public rooms are all on one deck and, though rich and sumptuous in appointments and furnishing, they have been so treated as to produce a cool, restful effect, particularly pleasing for tropical travel.



A PORTION OF SOCIAL HALL.



THE SS. "PAN AMERICA."

Upper: The Dining Room. Lower: One of the de luxe bedrooms.



THE SS. "PAN AMERICA."

Upper: A corner of the card room. Lower: Children's play room.

CUBA, OUR SISTER REPUBLIC¹

By SEÑOR DR. CARLOS MANUEL DE CÉSPEDES,

Cuban Minister to the United States.

IT IS a compliment and a privilege to be invited to address this great association of yours at one of its famous gatherings, and I am very proud that you should have requested me to speak to you as your guest of honor on such an occasion.

In the first place, it is certainly to the sincere interest that you take in everything that relates to my country's welfare that this valuable distinction is due: it is also most fortunate for me that I should be at this time my country's accredited representative to this great nation, as I shall not only enjoy your generous and cordial hospitality and the marks of your esteem, for which I already feel so grateful, but I am sure that I may count on each and every member of your organization for that personal and warm sympathy that goes so far in strengthening the ties of true friendship between two peoples.

If Cuba and the United States were not so gloriously and intimately united by their historic past, such meetings as yours would do much to bring them closer together, through the free interchange of views and useful information and through what their outcome may bring in profit and good will. Already we can observe how our hearts and our minds are fast working together in harmony with the principles that recommend unity of purpose and mutually advantageous cooperation as the best policy between two sister nations.

I want to talk to you in a friendly and informal tone. No impassioned appeal for any particular cause will move you to emotion in this instance. It is a simple message of faith in the future of the business relations between our two countries that I bear and deliver to you. Yet, there is inspiration for great things in the apparently cold facts on which business is founded, since they are often the principal and best exponents of national ethics and the degree of national progress attained. It is by them that bankers such as you—men who exert an enormous influence in the economic world and whose opinions are so highly valued—can judge a foreign people and its right to credit in the sphere of commerce and finance; and it is pre-

¹ Address delivered at the Annual Banquet of the New York Chapter of American Institute of Banking, at the Hotel Commodore, Feb. 18, 1922.



Photograph by Harris & Ewing.

SEÑOR DR. CARLOS MANUEL DE CÉSPEDES

Envoy extraordinary and minister plenipotentiary of Cuba to the United States.

cisely to the validity of Cuba's right to such credit that I desire to direct your attention.

Not many years ago the entire economic structure of Cuba was in its infancy. Recognized as a free and independent nation in 1902, the Cuban people looked out on the great civilized world from a very narrow and colonial window.

Ruined by the long wars for independence that she had fought alone through half a century of glory and sacrifice until the United States of America unsheathed the sword and came to her aid, it seemed to her that 50 years of toil and experience would be necessary to bring the Republic in line with some of her older sisters of this continent in the economic field.

With special relation to banking, nothing could be more rudimentary than the instruments of credit which Cuba used in 1898; rates of interest were established by the caprice or rapacity of a few money lenders; checks, as a means of payment, were almost unknown in facilitating transactions outside of the capital of the island; a sound currency was not in existence and the circulating media were represented by some American money and a stock of Spanish and French silver and gold coins held in the country by an artificial premium. In a short time, however, some great banks were established; they opened branch offices throughout the country and, while without any such organization as your Federal Reserve system, they furnished credit as they grew, and helped the country wonderfully in its astounding rise to riches and prosperity. A national monetary system on the basis of gold, at the same value and fineness as American gold, was adopted, and the first step was then taken toward the complete establishment of a national monetary system to which Cuba had always aspired as a sign of her national sovereignty.

It is a well-known fact that those banks soon became depositories of hundreds of millions of dollars that were rapidly increased by the war-time sugar business; and if some people pointed to the failure of many banks in the recent crisis, which reflected a universal phenomenon that was rendered more crucial by the non-existence of a Federal Reserve bank that we now aspire to found, there are others who know that the Cuban people proved themselves at that time to be a great producing power and a saving people, as demonstrated by the records of exportations and by those of deposits and savings accounts.

It is true that during that period some fortunes were squandered and great amounts of capital mismanaged; that everybody or nearly everybody lived or tried to live in luxury and abundance; but when we consider, also that even now there must be over \$100,000,000 of American currency in Cuba, we are struck by the producing power of the nation and its ability to preserve a part of its earnings. Such a field as this is evidently not a negligible one for the keen apprecia-

tion of business opportunity by American bankers and merchants; and as Cuba emerges from her appalling crisis with her lesson well learned—perhaps better than others older and more experienced than she have learned it—we can still offer to the consideration of the world, as the best guaranty of what she will be in future, these eloquent facts. In her effort to aid the United States and the allied cause, a nation of 3,000,000 inhabitants produced more than 4,000,000 tons of sugar in a single crop; bought in a single year merchandise amounting to more than \$500,000,000 from the United States alone; and accumulated hundreds of millions in deposit and over \$100,000,000, as I have said, in United States currency in circulation or hoarded by the people.

Would your interest in Cuba not grow and your faith in her become stronger if you also were informed that the Government has effected economies to the extent of over \$60,000,000, readjusting its expenses to the revenues of normal times? Would you not clearly see that all has not been squandered in the orgy of high prices and high living, when I tell you that many of those millions have been employed in bringing up the great sugar industry to its present point of power and efficiency; when you are told that in general those funds went toward making the country what it now is and that, notwithstanding her misfortunes, Cuba is and will continue to be, if you treat her in a just and equitable way, the foremost customer of the United States among the Republics of this continent and a magnificent place for American business and enterprise?

If on the canvas of this picture you now lay the rose-colored touch of her resplendent youth; the friendship and proximity to the United States, that are important assets in themselves; and the value of your great example, that beams like a torch of light in a world not yet free from darkness and misery; who of you can doubt of Cuba's future, or that she will eventually become a center of high civilization, a truly model republic of this hemisphere? It is toward this future, which is, in some respects, already the present, that I beg you to turn your kindest thoughts.

The confidence of the world may well rely on Cuba's ability to attain so high a standing. Your faith will not fail her, and when you turn the pages of your great and heavy books and carry the results of the old figures over to the new account, I feel confident that you will place to the credit of Cuba her best achievements of the past and her will to triumph in the future.



THE JUNIOR RED CROSS:

THE LEAGUE OF CHILDREN FOR CHILDREN.

By LOUISE FRANKLIN BACHE.

THE CRIMEAN WAR and its attendant suffering brought Florence Nightingale and her little band of English nurses before the eyes of the world and laid the cornerstone for the humanitarian nursing service of to-day. The terrible battle of Solferino, Italy, in the summer of 1859, awakened Henri Dunant, a Swiss, to the realization of the need for a society which should minister to the wounded and dying in war irrespective of the side they might be on; the result was the formation of the international brotherhood of Red Cross societies at the famous Geneva convention, August 27, 1864. The last great war also left a legacy. It is the *league of children for children*, known as the Junior Red Cross, which sprang into existence with the entrance of the United States into the European war. In response to a proclamation by Woodrow Wilson, then President of the United States, the school children of the country were formally organized under the name of Junior Red Cross, January 25, 1918. Little more than a year after the issuance of the proclamation—in February, 1919, to be exact—11,000,000 children had enlisted under the banner of the Red Cross, and there had been contributed by them surgical dressings, hospital garments and supplies, articles of comfort for soldiers and sailors, and clothes for the refugees in war-stricken countries to the value of \$10,000,000.

But this was war work, and with the cessation of hostilities there came the question of demobilization. Educators everywhere rose to remonstrate. Here were millions of boys and girls trained in the ideas of service, who were not only enthusiastic but anxious to go on with their work. What better training for good citizenship could be found than the utilization of "head, heart, and hands in the service for the common good?" The period of reconstruction was at hand.

There was need for children as well as for their elders in the performance of the tasks ahead. So it happened that the Junior Red Cross was not scrapped with many of the war-time relief organizations, but was recognized as a permanent institution with constructive work to perform. With its peace-time program came the larger vision of a "league of all children." "If we can link together the children of all nations in world-wide bonds of understanding and friendship," said an educator in Europe, "there will then have been achieved an unrivaled power for the future welfare of all nations



Copyright by American National Red Cross.

THE MARCH OF THE

(Frieze by Anna

Left to right: United States, Italy, Great Britain, France, Czecho-Slovakia, China,

and for the guaranteeing of international justice and peace." So a world perspective was given to the Junior Red Cross movement.

THE PROGRAM OF THE JUNIOR RED CROSS.

The program of the Junior Red Cross of the United States is one of service. Through it the school children are given an opportunity to participate in all Red Cross projects suitable to their ages. The program is divided into two fields—domestic and foreign. At home the Junior Red Cross volunteers to put its machinery in motion for all community projects tending toward better health, fire and accident prevention, community beautification, and other forms of civic activities. The production of garments, the making of toys, the furnishing of hospital supplies and comforts still goes on as the occasion demands. Many children owe hospital care, warm clothing, proper nourishment, crutches, eyeglasses, and dental attention to the Juniors, whose motto "I Serve" recognizes a friend in every child, no matter what his nationality, color, or creed. The beauty of the entire Junior program is its elasticity. Wherever there is a child in need, there the Junior Red Cross finds its work.

The foreign program is made possible by the National Children's Fund, which was authorized by the American Red Cross for the purpose of giving boys and girls the privilege of helping children of other lands who need assistance. This fund is devoted to such enterprises for children as day and vocational schools, playgrounds, scholarships, school gardens, school lunches, vacation camps, health games, welfare centers, and children's hospitals. The amount of money which each Junior auxiliary should raise for the National Children's Fund is a matter to be decided by the auxiliary, but it is urged that each auxiliary, no matter what its size, make some contribution to the



JUNIOR RED CROSS.

(Milo Upjohn.)

Jugo-Slavia, Spain, Belgium, Poland, Holland, Albania, Rumania, Greece, Montenegro.

fund. The fund is raised by entertainments, bazaars, salvage sales, gardening, and various other activities, as well as by individual savings and sacrifices. With the money thus contributed the boys and girls of the United States are helping in Albania, Belgium, China, Czechoslovakia, France, Hungary, Italy, Austria, Montenegro, Poland, Rumania, Serbia, and in the Virgin Islands.

From the contacts with children of other lands has grown a system of international correspondence which is, perhaps, the richest product of the Junior Red Cross movement. This correspondence includes an exchange of letters, post cards, pictures, samples of school work and handiwork. Nothing can do more to awaken friendly interest in other lands and peoples than the personal touch achieved through such a correspondence. School people in many parts of the world have indorsed the movement, because they realize its educational values. Letter writing and composition take on new meanings; geography, history, and civics separate themselves from the drabness of the schoolbooks and stand forth clothed in vivid, living colors; foreign languages gain an added stimulus; countries and peoples, once merely a list of printed names, become living, real things. With this close acquaintanceship misconceptions and prejudices disappear and friendly and affectionate interest takes their place. Thus does the Junior Red Cross lay the basis for constructive, broad-minded citizenship.

A little schoolgirl in France has expressed her idea of international correspondence in these words: "The ocean is so great that the sea-gulls do not cross it. During seven days and seven nights the giant steamships of America, going at full speed, drive through the deep waters before the lighthouses of France come into view; but from one side to the other hearts are touching." There are active Junior

Red Cross societies in Czechoslovakia, Poland, Hungary, Canada, and Australia. England, France, Italy, Spain, Argentina, Belgium, Bulgaria, Austria, China, and Yugoslavia are planning similar organizations. A league of friendship uniting boys and girls all around the world has started. Can anything be of more value to the children of every land than to have a part in this great movement?

THE ORGANIZATION OF THE JUNIOR RED CROSS.

The school is made the unit of the Junior Red Cross organization. Any school—public, private, or parochial—may be enrolled as a school auxiliary on the pledge of participation in the work of the



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THE JUNIOR RED CROSS. (Drawn by Ann Milo Upjohn.)

The foreign program is made possible by the National Children's Fund, which was authorized by the American Red Cross for the purpose of giving boys and girls the privilege of helping children of other lands who need assistance.

Red Cross, by contribution to the Chapter School Fund, by producing Red Cross supplies, or by engaging in other Red Cross activities approved and supervised by the Chapter School Committee. The Chapter School Committee is the connecting link between the local Red Cross Chapter and the school. The chairman of the committee should be the local school superintendent or some one identified with the school board or in close sympathy with school interests. Its membership generally consists of school authorities, teachers, and representatives of other local agencies interested in child welfare. The work of the school auxiliaries is directed and supervised from the respective headquarters of the several geographic divisions, into.

which the United States is divided for the purpose of Red Cross administration, each division reporting to and supervised by national headquarters at Washington, D. C. To become a member of the Junior Red Cross, a child may earn his individual membership in one of three optional ways: (1) By contribution to the service fund, preferably secured by sacrificing a small pleasure; (2) by participation in group projects to earn this service fund; (3) by performing a significant personal service for school, chapter, or community. Any one of these special services makes it possible for a child to inscribe his or her name on the Junior membership roll and brings with it the privilege of wearing a Junior Red Cross service button, bearing



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THE LEAGUE OF CHILDREN FOR CHILDREN. (*Drawn by Ann Milo Upjohn.*)

From the contacts with children of other lands has grown a system of international correspondence, including an exchange of letters, post cards, pictures, samples of school work and handicraft.

the motto, "I Serve." The children are taught that to earn one's service fund by his or her own efforts is the only true standard of giving. So has the old creed of chivalry been revived. "Not what we give but what we share, for the gift without the giver is bare;" and so has an adventure been launched "which," to quote Sir Philip Gibbs, "may lead to the discovery of new worlds, not divided like our poor old planet by innumerable frontiers of prejudice and ignorance, but united by friendly understandings, by compassion for the inevitable sufferings of the human family, and by helpful service one to another."



Courtesy of Honorable William Miller Collier, American Ambassador to Chile.

THE AMERICAN EMBASSY BUILDING IN SANTIAGO, CHILE, RECENTLY PURCHASED BY THE UNITED STATES.

NEW AMERICAN EMBASSY BUILDING, SANTIAGO, CHILE

THE PROPERTY recently acquired by the United States Government for its embassy in Chile consists of a large lot of about 180 feet frontage and 300 feet depth, situated on the Calle Merced, fronting on the beautiful Parque Forestal, along the border of the Río Mapocho, at the foot of the Cerro San Cristobal. The whole range of the Andes as well as the Coast Range, is in view. The situation is the finest in Santiago from the residential standpoint, while the place also possesses the advantages of accessibility and of comparative nearness to the Government offices.

There are three separate and distinct buildings upon the grounds, all of them completed this year, namely, the palatial main house, a smaller building containing 12 rooms to be used as the chancery, and an attractive porter's lodge.

The main house is three stories in height, of sandstone finish, and equipped with all modern improvements of the latest design and most perfect type. It contains a spacious entrance hall, library, salon, music room, ballroom, dining room, billiard room, banquet hall, conservatory, two grand marble staircases, and a large number of bedrooms, with a terrace garden upon the roof. Architecturally the house is of great beauty, having numerous porticoes, piazzas, and terraces; while the interior is richly finished in marble and imported American woods, with an abundance of carving and ornate paneling.

The property cost its original owner approximately \$700,000 American money, but owing to the depressed business conditions in Chile, and the absolute stagnation of the real estate market, Ambassador William Miller Collier, who conducted the negotiations for the United States Government, was able to get it for the amount appropriated by Congress for the purpose, namely, \$150,000.

Probably no embassy of any Government in any capital in the world surpasses this one in beauty, serviceability, or fitness for the use to which it is to be dedicated.

The advantages to the American Government in acquiring this property are not only that it provides a fitting and an appropriate residence for its ambassador in Chile, but also a commodious office building or chancery in which all the secretaries of the embassy and all the attachés—military, naval, and commercial—can have their offices together, thus securing a cooperation which will mean a considerable saving of expense and which will greatly promote the efficiency of the work of the embassy. The saving in rent will be \$10,000 a year. Other possible economies will bring the total annual saving up to \$15,000, representing the interest on a capitalization of \$300,000. It is expected that Congress will promptly make a sufficient appropriation for the suitable furnishing of the building. The embassy will begin occupancy of it as soon as furnished.

NAURU ISLAND

THE PHOSPHATE TREASURE ISLAND OF THE SOUTH PACIFIC.

By THOS. J. McMAHON, F. R. G. S.

WHEN THE possessions taken from Germany during the war were divided Great Britain, Australia, and New Zealand were given the mandate for the administration of Nauru Island, a dot of land, 12 miles in circumference just south of the Equator, and between the Marshalls and Solomons Islands groups. Nauru would be a little over 2,000 miles from Java. This diminutive island has 5,000 acres and is famous for its valuable deposits of the highest grade phosphate of lime—a magic soil fertilizer.

Thirty years ago Nauru was an island no one thought much about, as no one realized the immense wealth that lay deep and snug among the coral pinnacles of the low-set hills in the center of the island. American whalers would call in those days for water and pumpkins, and the natives then got the reputation of being so hospitable that the island was called Pleasant. After American whaling activities ceased in the South Pacific, few ships ever then touching at Nauru, came the Germans, who took possession of the island and named it Nauru. But even the Germans were not aware of the great value of the island.

One day a British vessel put in for supplies of water. On board was an expert in phosphate and guano. This man roaming about in the hills soon formed an opinion of Nauru which was to change it from an island of no consequence into a veritable treasure house of one of the most needed accessories, assuring the harvests of the agricultural world. To make a long story a short one, in two years, time a vast industry was organized with every modern appliance of machinery and every comfort and convenience for a large scientific and clerical staff, and hundreds of Chinese and natives from other South Pacific islands were busily engaged digging and blasting out in thousands of tons every month the precious phosphate. Ships came from every country in the world to carry away the wonderful fertilizer; thousands of tons a month grew to hundreds of thousands of tons a year, and still the hills of the tiny island look as if they have only been scratched. Both British and German experts have estimated there are nearly fifty million tons of the phosphate, and that many generations will come and go before Nauru is exhausted.



NATIVES WORKING IN THE PHOSPHATE DEPOSITS OF NAURU ISLAND

The bounteousness of Nature is shown in the composition of this magic product—phosphate of lime. For years—it is impossible to tell how many—countless numbers of sea birds were attracted to this tiny island, where neither man nor animal disturbed them, and where they found the superabundance of fish usual to deep-sea coral islands. The birds subsisted on fish and created vast deposits of guano, rich in phosphate, which, mingling with the coral rock rich in lime, were transformed by natural processes, assisted by periodic



HIS MAJESTY KING OWEIDA OF NAURA ISLAND.

Native police attendant in the rear.

copious rains, alternate droughts, and occasional and complete submergings of the island by the sea, into that potent, chemical factor phosphate of lime. To-day scarcely a bird is to be seen on the island; but a rich treasure has been handed over to the use and ingenuity of men.

Though the island was German owned, it was British enterprise that began the phosphate industry, and until the war the utmost harmony existed between the British and German employees and the German administration.



STREET SCENES IN THE PHOSPHATE OF LIME SETTLEMENT ON NAURU ISLAND.

Upper: A business street of the settlement. Lower: A residential street.

This phosphate industry comprises a settlement having many miles of electric and steam trains, telephones, electric light, fresh and salt water systems, refrigerators, and a fine sewerage system. There are hospitals for the whites, the Chinese, and the natives under European doctors and nurses.

There are great public laundries, excellent houses for married and single workers, a public hall, attractive recreation and reading rooms, and well laid out grounds for outdoor sports. There is, moreover, one of the most powerful wireless installations in the world, and ships are every week bringing news and supplies.

Nauru Island, although only $33\frac{1}{2}$ miles south of the Equator, is one of the healthiest spots on earth, malaria and other tropical ailments



THE NATIVE POLICE OF NAURU ISLAND PRESENT ARMS.

being unknown, and the white community is one of the jolliest and happiest of the island world.

Of special interest are the natives of Nauru, some 2,000 in all, ruled by a native king—a very remarkable man. When in 1914 the British took over the administration of this island from the Germans, their first care was to make the condition of the natives more satisfactory than it had been; though they had never been exploited by the phosphate industry. Under their king, Oweida by name, they accepted a government having laws partly British and partly native or tribal. They were encouraged to clean up the island, improve the

coconut plantations, and to work for good wages in the phosphate fields. This they have done with the result that they are a happy and contented race, enjoying perfect health and having every comfort a native people can desire. Within the last three months British administration has given place to Australian, but the same excellent régime is being maintained.

The Nauruans are noted for their good manners, the smallest child bowing to a stranger with the utmost grace and wishing, in a greeting, every blessing that one kind heart can desire for another. The Nauru women are accounted by many travelers the handsomest, best figured women in the Pacific, and certainly in their festive and dance dresses they show a distinction in taste and designs which is



ALONG THE RAILWAY LINE.

truly remarkable. Their dances are clever and not at all monotonous, while their singing and chanting have real melody.

Every native man and boy, and a good many young women, possess bicycles, and most picturesque cyclists they make in their coconut fiber *ridis*, or loin clothes. Practically every house has a sewing machine, which is put to many uses, but now that the native dress is going out of fashion—which is a pity—shirt- and dressmaking have become a part of the household duties of the women; indeed, the men are often found to be quite expert tailors.

The national sport of the Nauruans is frigate-bird capturing. The greatest ambition of a native is to own more of these mopy-looking

birds than any other native of his village. The tribal wealth of a native is estimated by the number of well-filled roosts of frigate birds that he can maintain; and maintenance, it may be added, means much fishing to feed the birds. These birds, uninteresting and always apparently asleep on the roost, are capable of an almost human cunning in the manner in which, as decoys, they can be



AN UP-TO-DATE RAILROAD CROSSING IN NAURU.

The warning sign is lettered in five languages: English, Nauruan, Marshall Island, Gilbert Island, and Chinese.

trained to capture other birds. On festival days, whole villages meet to contest supremacy in their decoy birds. The king presides over the tournament, and the roosts are set up, that of each village by itself. When the decoy birds are set free not a wild bird can be seen or heard. Up soar the decoys until lost to sight. Then, presently, the air is rent by the screams of wild birds gradually

enticed to the roosts with the tethered tame birds. As they approach the roosts, becoming suspicious of the men hidden beneath them, the wild birds, deciding that matters have gone far enough, try to soar away. Now the real labor begins. With open bills and wide-spread wings the decoys attack their victims, bar their way, head them off, circling round and above them until they are driven to the roosts, bullied and exhausted.

At the end of the tournament a count is made, and the village and the villager with the largest number of captive birds to their credit are publicly praised by the king, whereupon feasting and dancing begin.

Small as Nauru is, it is a very beautiful island. A fine road, entirely coconut-palm shaded, encircles the island, making a pleasant walking, driving, and riding space for the white inhabitants. In the hills are many lagoons of great beauty, the clear waters reflecting the villages, coral rocks, and palms. The natives own areas of lagoons, as they do areas of land, in fenced in portions of which they keep fish for food. These fish get so tame that they can be caught in the hand.

Nauru will always be prominent in the South Pacific owing to its commercial importance, but the day will surely come when regular tourist steamers will visit this new and interesting treasure island, and the world will come to realize the wonders of its phosphate industry, the charm of its natives, and the beauties of its scenery.



A LAGOON, NAURU ISLAND.

The natives fence in areas of water in which they keep fish brought from the sea, to be caught for a meal at a moment's notice.

AGRICULTURE, INDUSTRY AND COMMERCE

There is no conceivable cause of friction or misunderstanding that may arise between the business people in the United States and their commercial connections in any one foreign country that will withstand the determination of the best elements in the mercantile communities of both to judge fairly and justly and to agree upon an equitable remedy.

—A. J. WOLFE,

Chief, Division of Commercial Law, United States Department of Commerce.

ARGENTINA.

FROZEN MEAT IN EUROPE.—The first consignment of Argentine frozen meat to Germany, says the Review of the River Plate, arrived at Hamburg last January. A new cold-storage system will be installed in vessels intended to carry Argentine meat; the capacity will be 700 tons. A cooperative society has arranged for retailing Argentine meat at 55 shops in Hamburg and its vicinity, and another company intends to open 500 stores throughout Germany for the sale of this and other Argentine food products.

In Paris a syndicate has been formed to import Argentine cattle and frozen meat into France. The group of bankers and business men interested in the matter proposes to open 30 butcher shops in Paris and an equal number in the Provinces, all with modern equipment for the handling of Argentine chilled and frozen beef.

IGUAZÚ FALLS POWER.—The Brazilian diplomatic representative in Buenos Aires has informed the Argentine Minister of Foreign Affairs that the Brazilian Government has accepted the general conditions of the projected treaty proposed by the Argentine Ministry of Foreign Affairs for harnessing the Iguazú Falls and transmitting the electric current to Buenos Aires and important cities en route.

RAILWAYS.—The deed of amalgamation between the Argentine Transandine Railway and the Chilean Transandine Railway has been signed.

TRUCK TEST.—According to the report of United States Trade Commissioner George S. Brady, in the auto-truck test carried out by the Argentine Army, which was for speed in capacity-loaded trucks over dirt roads, an American truck won over three German machines.

BUENOS AIRES-MONTEVIDEO AIR ROUTE.—From December 17 to January 16, the first month's operation of the above air route, 113

passengers were carried, and 10 extra trips made in addition to the regular biweekly service.

TELEGRAPH LINES.—Additional telegraph lines are to be built in the various Provinces at a cost of 500,000 pesos national currency.

FRUIT TRADE.—An express freight train service with refrigerator cars has been installed on the National Railways to transport fruit from the Province of San Juan to Rosario and Buenos Aires.

With the recent successful shipments of fruit to New York and the Argentine-Brazilian reciprocity agreement it is evident that the fruit-raising business is to be an increasing source of revenue to the country. This agreement has removed the import duties of both countries on fruit sent from one of these countries into the other. Brazil exports to Argentina principally bananas and oranges, while Argentina ships to Brazil grapes, peaches, plums, apricots, and other fruits of the temperate climate.

REDUCED RATES TO BRAZIL, URUGUAY, AND ARGENTINA.—See page 610.

BOLIVIA.

CHILEAN-BOLIVIAN MINING COMPANY.—The Gallofa Consolidated Co. of Colquechaca has joined other organizations to form a stock company known as the Compañía Minera Gallofa-Colquechaca. The initial capital of the company is 550,000 shares of a pound sterling each, to be used exclusively for the installation of machinery and the acquisition of new properties. At present the company is producing about 5,000 marks of silver a month, and can produce 1,500 quintals of tin bars. (A mark equals 230 grams; a quintal equals 101.44 pounds.)

STANDARD OIL Co.—This company, which has recently acquired large holdings in Bolivia, as already noticed in the BULLETIN, has lately intensified its explorations in the different fields where oil is supposed to exist. Engineers are studying different deposits, and the machinery necessary for the first borings has arrived. Three wells will be sunk at first—one in Santa Cruz, one in Tarija, and a third in Chuquisaca.

BRAZIL.

SILK CULTURE AND MANUFACTURE.—The director of the sericulture station at Barbacena, State of Minas Geraes, as reported by the assistant United States trade commissioner, says that the results obtained in various States through the efforts of the experimental station, which is under the Ministry of Agriculture, have been extremely encouraging, and that the industry offers great economic possibilities. The culture of the mulberry tree is easy, and both the tree and the silkworm are free from diseases and pests prevalent in other countries. More than one crop of cocoons a year can be obtained, the

silk being of excellent quality. An interesting feature of the sericulture station is its model silk factory for both spinning and weaving.

A silk factory will be erected in Campinas, São Paulo, by the purchaser of a large plot of ground, 77,703 square meters in extent.

CAUSTIC SODA FACTORY.—Early this year a large caustic soda plant was opened in Rio de Janeiro. It is constructed along modern lines, and uses the electrolytic process in the manufacture of caustic soda and chlorine, which in turn will be the bases for numerous subproducts, heretofore imported, necessary to the industrial life of Brazil. The present capacity of the factory is 5,000 kilos of caustic soda 76° and 10,000 kilos of calcium chloride 35 per cent in 24 hours. The company will also manufacture chlorine, both gas and liquid, for water purification, bleaching, manufacture of hydrochloric acid, disinfectants, and as a poison for ants. (*United States assistant trade commissioner, Rio de Janeiro.*)

AERIAL LINES.—Two lines of aerial navigation under Federal control are to be inaugurated September 7, 1922, between Rio de Janeiro and Porto Alegre, capital of Rio Grande do Sul.

REDUCED RATES TO BRAZIL, URUGUAY, AND ARGENTINA.—In April the Lamport & Holt Steamship Co. reduced its fares approximately \$100 to Rio de Janeiro, Montevideo, and Buenos Aires. This makes the one-way fares \$315 to the first-named city, \$360 to the second, and \$370 to the third, with a special round-trip rate of \$450 to Rio de Janeiro, beginning July 1. The Munson Line also reduced its rates, offering passage at \$295, \$345, and \$350, respectively, to the cities mentioned, and \$450 round trip to Rio de Janeiro, beginning July 1. Both lines sail from New York.

NATIONAL SUGAR EXCHANGE.—See page 620.

FEDERAL AID FOR PUBLIC ROADS.—See page 621.

CHILE.

CHILEAN PRODUCTS IN BRAZIL.—Chilean exporters are anxious to take advantage of the free zone established by the Government of Uruguay for imports and exports to and from Brazil. The free zone is provided with warehouses and other facilities for the storage of merchandise for a period not over one year, free of taxes excepting the nominal charge of 1.50 pesos gold per ton for loading and unloading. Paraguay has already made use of this free zone, and Chile will be equally benefited by it. It has been proposed to carry Chilean products in Chilean vessels to the Uruguayan free zone, from which they will be delivered to the different ports of Brazil by the Lloyd Brasileiro, and vice versa. Such an exchange will bring to Chile marketable Brazilian products such as coffee, mate, sugar, rice, and cotton, while Chile can furnish Brazil with peas, lentils,

raisins, flour, and wines, both countries enjoying the mutual decrease in price.

FRUIT EXPORTATION.—Chilean fresh fruit, successfully exported to New York as already noted in an earlier number of the *BULLETIN*, is being shipped increasingly in response to the demand. The steamer *Ebro* recently sailed from Chile for New York with the largest cargo of fruit yet shipped; the value was placed at \$1,000,000. Special arrangements for immediate shipping, the appointment of a fruit inspection official, the remission of export duties, and reduced freight rates, together with the difference in the rate of exchange, are expected to bring to Chile much profit in the new export trade. The Pacific Steam Navigation Co. has installed the first refrigeration plant in its steamer *Oriana*, thus removing the danger of the fruit spoiling in transit.

FRUIT SHOW AND AGRICULTURAL MEETING.—Last March an important fruit and vegetable show was held in Santiago under the auspices of the Sociedad Agronómica of Chile. Besides the main section there were exhibits of machinery, tools, chemical fertilizers, remedies for use against plant diseases and insects, and model packing boxes. Producers of the products in question, who assembled at the time of the show to exchange ideas and plan the coordination of their work, were addressed by technical experts, whose remarks were illustrated by films lent by the United States Department of Agriculture.

COLOMBIA.

ROAD TO SALTO DE TEQUENDAMA.—The Automobile Association of Bogotá secured the passage of Law No. 4 of 1922, by virtue of which the road from Chusaca to Tequendama Falls is declared a national highway. The Government is authorized to negotiate a loan of 30,000 pesos for the reconstruction of this highway, the payment of which will be guaranteed by the excise tax.

FOREIGN TRADE.—The imports and exports for the first half of 1921 were as follows: Imports, 65,179,541 kilos, valued at 19,179,105 gold pesos; exports, 167,853,885 kilos, valued at 31,549,296 gold pesos.

HYDROPLANES.—The report of the gliders of the German-Colombian company, which operate on the Magdalena River, is as follows for the last four months of 1921:

Month.	Number of hydro-planes.	Number of flights.	Kilo-meters traveled.	Passen-gers.	Freight carried.
					<i>Kilos.</i>
September.....	2	41	8,265	27	3,990
October.....	3	67	15,190	51	5,840
November.....	4	105	17,040	126	10,093
December.....	4	94	17,150	93	9,337

CUBA.

POTATOES TO THE UNITED STATES.—The Bureau of Vegetable Sanitation of the Department of Agriculture has secured the permission of the Federal Horticultural Commission of Washington to permit the entrance of Cuban potatoes into the United States when accompanied by a certificate issued by the bureau.

CORN RAISING IN RURAL SCHOOLS.—The Secretaries of Agriculture and Public Instruction have arranged a corn-raising contest in the rural schools of the Province of Habana. Three prizes and 10 certificates will be awarded to the schools presenting the best 50 ears of corn raised on a plot of 200 square meters from seed furnished by the Secretary of Agriculture.

DOMINICAN REPUBLIC.

IMPORTANT ROADS.—It has been decided to complete the highway from Santo Domingo northwest across the entire island to Monte Cristy, and also the transverse highway from Santo Domingo to San Pedro de Macorís, Hato Mayor, Seybo, and Higüey, near the east coast, and west from the capital to Baní, Azua, San Juan de la Maguana, and Comendador.

SUGAR.—The Secretary of Agriculture states that in 1921, 17 of the 20 centrals in the Republic were in operation. The Province of San Pedro de Macorís led in the number of centrals (8) and in the quantity of sugar (728,421 bags), while the Ingenio Romana alone, in the Province of Seybo, produced 285,505 sacks of varying weights, and exported to Porto Rico 73,025 tons of cane. The total for the Republic in 1921 was 1,291,173 bags.

Three large warehouses capable of storing 175,000 bags of sugar have recently been opened, reports the American vice consul at Santo Domingo. Loans will be granted by various Dominican and American financial institutions against receipts for the deposit of sugar.

ECUADOR.

EXPORTS OF 1920.—The value of the chief exports of 1920 was as follows: To American countries, cacao to the amount of 22,810,267 sucres; coffee, 612,514 sucres. To Europe, cacao, 12,763,130 sucres; coffee, 304,395 sucres. The total amount of rubber exported from Ecuador in 1920 was 139,408 kilos, worth 154,571 sucres; cattle hides, 614,056 kilos, worth 528,538 sucres; calf hides, 1,143 kilos, worth 667 sucres; lambskins, 7,453 kilos, worth 4,201 sucres; goat skins 10,713 kilos, worth 12,829 sucres; alligator skins, 28,391 kilos, worth 8,000 pesos; deer skins, 20 kilos, worth 60 sucres; hides for shoes, 51 kilos, worth 2,270 sucres; other hides, 6,858 kilos, worth 5,300

sucres; unshelled tagua nuts, 9,155,679 kilos, worth 1,694,718 sucres; shelled tagua nuts, 13,943,291 kilos, worth 4,183,922 sucres; toquilla straw hats (Panama hats) to American countries, 132,295 kilos, worth 2,339,206 sucres, and to Europe, 200,261 kilos, worth 3,628,936 sucres. (*Comercio Internacional, Guayaquil, December, 1921.*)

REPORT OF AGRICULTURISTS' ASSOCIATION OF ECUADOR.—The report of the President of the Association of Agriculturists of Ecuador gives account of the efforts of this body of cacao growers to maintain a fair price for their product through the year 1921. At each considerable drop in price the association entered the market and bought varying numbers of quintals of cacao, in each case stabilizing the market and keeping the wholesale price at or near 21 sucres per quintal. Since the beginning of 1922 the prices have risen considerably, and at the writing of the report February 16, 1922, were as high as 36 sucres per quintal for "Arriba Superior." A profit of 97,958.84 sucres was made on the cacao bought by the association. The export tax of 3 sucres per quintal (46 kilos) of cacao is devoted to the purposes of the association, as explained in the February, 1922, BULLETIN.

GUATEMALA.

BANANAS.—According to the report of United States consul Arthur C. Frost, banana raising on a commercial scale is being undertaken on the Pacific coast of Guatemala. An American fruit company has 2,000 acres 15 miles west of San José de Guatemala planted to bananas. The company will overcome the lack of rainfall by irrigation, and will ship the fruit to the western ports of the United States, which are now supplied with about 100 carloads of bananas a week from New Orleans.

CHICLE.—A 10-year concession has been granted by the Government for the extraction of chicle in the unoccupied territories of the Department of Petén. The concessionaries engage to export 75,000 quintals of the product within this time, each quintal to weigh 46 kilos net, and to be subject to a Government tax of \$5 gold.

HAITI.

FIRE PROTECTION.—A large pump installed next to the custom-house in Port au Prince will make sea water available for extinguishing any fires occurring near the water front.

AGRICULTURAL EXPOSITION.—A national agricultural exposition took place early in May in Thor, Port au Prince.

HONDURAS.

ROADS.—Work was begun March 1 by the municipality of San Pedro Sula at Palmar on its section of the Santa Rosa de Copán

road. It is expected that this road will have a branch to Santa Bárbara and will be extended to Ocotopeque on the Salvadorean frontier, passing through the Departments of Cortes, Santa Rosa, Santa Bárbara, and Ocotopeque, and thus connecting the towns of the west with the Atlantic coast.

NEW FACTORIES.—A factory for mosaic wall and floor tiles was opened in San Pedro Sula on January 1.

Another new industry has come to San Pedro Sula in a factory for ready-made clothes for men, women, and children. The machines for making buttonholes, cutting, and sewing are run by electricity. The factory has about 40 operators under a superintendent from the United States.

MEXICO.

ABOLITION OF PASSPORTS.—The decree abolishing passport requirements between Mexico and the United States became effective on February 1 last. The news was received with joy all along the border, for up to that date the existing passport regulations had seriously interfered with the commercial and social intercourse between the two countries, in numerous instances preventing Mexican merchants from entering the United States solely because they did not possess the prescribed visé. The issue of this decree is largely the result of efforts made by the American Border Chambers of Commerce, which submitted to the Department of Commerce a petition signed by 32,000 American citizens representing all commercial organizations along the frontier, from Brownsville to San Diego. Only the regulations of the immigration bureaus of the two countries will be enforced in the future. While the abolition will mean a loss of revenue, it will be more than compensated by the increased commercial interchange.

NEW STEAMSHIP SERVICE.—The *Compañía Naviera de los Estados de Mexico, S. A.*, will operate a fleet of 14 new, fully equipped steel steamers between Salina Cruz, Mexico, and Vancouver, Canada, calling at 15 Mexican ports. The first three of these steamers are already in active service and are soon to be followed by the others, thus establishing a regular service with weekly sailings along the west coast. The National Railways of Mexico have authorized their agents to issue "through bills of lading" with special rates on freight shipped to the *Compañía Naviera Mexicana*. The arrangement includes all the Pacific ports at which the shipping company's steamers call, and all the railroad stations of the National Lines. The "through bills of lading" will eliminate the necessity of agents in the points of embarkation, destination, or transfer.

GOVERNMENT ROAD-BUILDING PROGRAM.—The Department of Communications and Public Works has started work on the construc-

tion of 10,336 kilometers of roads to be completed this year, for which purpose the federal budget appropriates 30,000,000 pesos gold.

GEOLOGICAL MAPS.—The Map Division of the Department of Agriculture has completed a series of maps covering the geological survey of the whole country. About one-fifth of the total area of the Republic is shown to contain oil deposits.

TRADE EXCURSION TO MEXICO.—Under the auspices of the New York Commercial, a business men's trade excursion to Mexico is planned to take place from June 4 to 30. The party will visit Monterrey, an industrial center, Tampico, the great oil port, San Luis Potosí, in the mining district, Guadalajara, the "Pearl of the Occident," Mexico City, Puebla, the third city in the country, and the port of Vera Cruz.

CANADIAN BUSINESS MEN'S VISIT.—As a result of the Canadian commissioners' visit to Mexico some time ago an observation and propaganda trip is being planned by a number of Canadian business men of Toronto and other cities.

ESTABLISHMENT OF FREE WORKSHOPS.—See page 634.

NICARAGUA.

MEXICAN WIRELESS GIFT.—The wireless apparatus for the station given by Mexico to Nicaragua arrived aboard the *Carranza* at Corinto on March 25.

PANAMA.

GOVERNMENT ROADS.—The Government roads committee in a recent meeting decided to continue the Las Sábanas road; the Montecastro road which runs to San Juan de Pequén and Cerro Barca, and the road to Pacora. The First Avenue detour is being resurfaced, thus completing the only unfinished stretch of good road on the highway from Panama to the Casino, Old Panama, and Tapia.

RICE IMPORT TAX.—The import tax on rice is now to be collected ad valorem on the declared prices as changed or established by the official appraisers.

PARAGUAY.

FOREIGN COMMERCE.—According to the Director General of Statistics, the value of the imports in 1921 amounted to 8,358,922 gold pesos and that of exports to 9,316,721 gold pesos, a total of 17,675,643 gold pesos. During 1920 the imports amounted to 13,118,564 gold pesos and the exports to 14,959,175 gold pesos, a total of 28,077,739 gold pesos.

BRIDGES AND ROADS.—The route for the Asunción-San Bernardino road has been definitely fixed via San Lorenzo, Capiatá, Itanguá, and Ypacaraí. The towns through which the road will pass have

been asked to appoint commissions to advance as much as possible the accomplishment of this highly important work.

The bridge and road section of the Banco Agrícola reports that in the first eight months of 1921 the sum of 2,431,899 pesos legal currency was spent in this work. Two more bridges costing 70,000 pesos are under construction, with the financial cooperation of the municipalities in which they are located.

PERU.

CHEAPER SHOES.—United States shoe manufacturing machinery has been installed in the Panóptico prison at a cost of 20,000 Peruvian pounds. Army shoes are being turned out at a cost of 7.50 soles as against a minimum of 16 soles for those imported from the United States, the quality, it is said, being equally good. It is expected that shoes of all kinds will be made.

LIMA-YANGAS ROAD.—This road, 90 kilometers in length, has been opened to automobiles.

SALVADOR.

IMPORTANT RAILWAY LINK.—Amid much popular enthusiasm the line between Cojutepeque and San Salvador was opened to traffic on March 17. This is a new link of approximately 45 miles in the International Railway of Central America, which in turn forms part of the Pan American Railway, planned eventually to unite New York and Buenos Aires. The first section of this line from La Unión (Cutuco) to San Miguel was finished in 1912; from San Miguel to Zacatecoluca and San Vicente in 1915; from San Vicente to Cojutepeque in 1920; and from Cojutepeque to San Salvador March 15, 1922, thus completing the line across the country, 252 kilometers in length.

Since the completion of this line travelers from San Salvador can reach the capital of Honduras in 22 hours, and the capital of Nicaragua in less than 26 hours, making the trip to the mainland of Honduras (San Lorenzo) from Cutuco (or La Unión) across the Bay of Fonseca in a gasoline launch in five hours and then taking an auto stage to Tegucigalpa, or to the mainland of Nicaragua (Tempisque) in approximately 7 hours, and riding several hours overland to Chinandega, whence daily trains run to Managua.

URUGUAY.

ROADS IN MINAS.—The Department of Minas is planning to spend 46,000 pesos on city streets and suburban roads.

AMERICAN CONGRESS OF ECONOMIC EXPANSION AND COMMERCIAL TEACHING.—At the January meeting of the permanent commission

in Montevideo it was resolved to take up with other Pan American countries through the Department of State their attendance at the congress to be held in Rio de Janeiro on October 12 of this year. The last congress was held in Montevideo in 1919. Papers on the following subjects were assigned for study and reports: Plans, programs, and regulations of the commercial schools of the continent; customs regulations; an improved international political economy for America; commercial instruction of women; shorthand teaching in commercial schools; and office practice in advanced commercial schools.

REDUCED RATES TO BRAZIL, URUGUAY, AND ARGENTINA: See page 610.

VENEZUELA.

NEW ROAD.—The president of the State of Zulia has authorized the opening of the new road from Altagracia through Mene which joins the Falcón-Zulia highway and extends to the boundaries of the State of Falcón. This road, built by the British Controlled Oilfields Co., will be 15 meters wide and divided into two parts, one for the use of the company and the other for the public.

COFFEE EXPORTS, 1921.—Last year coffee was exported as follows from four Venezuelan ports: La Guaira, 146,485 bags; Puerto Cabello, 265,348 bags; Maracaibo, 633,552 bags; Carupano, 311,423 kilos. (The bags weigh 60 kilos each.) These figures are given by the United States consul at Caracas.

EXPLOITATION OF NATURAL PRODUCTS.—See page 623.

ECONOMIC AND FINANCIAL AFFAIRS

ARGENTINA.

TWENTY-SEVEN MILLION DOLLAR LOAN.—The Argentine Ambassador to the United States signed a contract March 6, with a syndicate of New York bankers for a \$27,000,000 loan to the Argentine Government for 5 years at 7 per cent interest. The bonds of this loan, which will be sold at 99 per cent, will run from February 1, 1922, to February 1, 1927, and are free from all tax by the Argentine Government. The loan is to be used for the payment of previous loans to the Argentine Republic, and will considerably reduce the country's floating debt.

BOLIVIA.

EXPORT TAXES.—Receipts from export taxes for the first six months of 1921 amounted to 1,304,406.41 bolivianos, as follows: Tin, 1,043,051.75; copper, 1,358.97; antimony, 409.36; bismuth, 1,995.33; silver, 91,216.17; rubber, 69.15; hides and skins, 6,040.17; hard woods and feathers, 240.30; wools, 2,787.22; additional mineral tax, 127,545.29, and export statistic tax, 29,693.69 bolivianos. During 1920 minerals and other exports reached a total of 121,252,115 kilos, valued at 156,018,743 bolivianos. (*President's Message.*)

CHILE.

ARGENTINE-CHILEAN STOCK EXCHANGES.—Due to the initiative of the Minister of Argentina in Chile and the cooperation of the Argentine and Chilean sections of the Pan American High Commission, the negotiations which have been under way for establishing an interchange of quotations between the stock exchanges of Santiago and Buenos Aires are approaching a successful conclusion. The president of the Buenos Aires stock exchange has recently visited the Chilean capital to complete the arrangements, which are of great importance in the relations between the two countries.

SANTIAGO LOAN.—The Municipality of Santiago has secured in the United States a loan of \$6,000,000 with 2 per cent annual amortization and 8 per cent annual interest. At the present rate of exchange the loan amounts to more than 60,000,000 pesos national currency.

COLOMBIA.

TREASURY BONDS.—Executive Decree No. 169 of 1922 authorizes the Conversion Board to issue and deliver to the Treasury of the Republic the sum of 6,000,000 pesos in Treasury bonds, in accordance with Law No. 6 of 1922. The emission will be made at the rate of 1,000,000 pesos a month.

CUBA.

BUDGET FOR PROVINCE OF HABANA.—On March 13 the Provincial Council approved the budget for the fiscal year 1922-23, which amounts to \$798,909.45. Among the items are \$2,000 for the María Jaén Asylum for Tuberculous Children, \$264,323.58 for new public works, and \$120,000 for road construction and repairs.

INTERNAL DEBT.—See page 621.

DOMINICAN REPUBLIC.

FOREIGN DEBT.—The foreign debt of the Dominican Republic is stated as follows (Feb. 20, 1922):

Year.	Original amount.	Outstanding.	Annual charges, interest, and amortization.	Date of complete amortization.
1908.....	\$20,000,000	\$7,534,000	\$1,200,000	1927-1929.
1918.....	4,161,000	1,627,000	289,000	.....
1921.....	2,500,000	2,242,000	814,000	July 1, 1925

GUATEMALA.

BUDGET CHANGES.—Under Decree No. 784 of February 27, 1922, the budget for the fiscal year ending June 30, 1922, has been changed to read as follows: Government and Justice, 65,439,880 pesos; Foreign Relations, 10,372,763.50 pesos; Treasury, 23,212,017.72 pesos; Public Credit, 12,298,441.50 pesos; War, 64,955,358 pesos; Promotion, 36,632,404.44 pesos; Public Instruction, 45,328,622.40 pesos; Agriculture, 1,831,600 pesos; other expenditures, 1,000,000 pesos; total, 261,071,087.56 pesos. This decree became effective March 1.

HAITI.

INTERNAL TAXES.—The *Moniteur* reports the internal taxes collected from October 1, 1921, to January 31, 1922, as 175,336.70 gourdes and \$74,366.38.

HONDURAS.

CUSTOMS AND LIQUOR-TAX REVENUES.—The customs revenues for 1921 were as follows, expressed in silver pesos: January, 386,628; February, 264,832; March, 316,311; April, 338,397; May, 370,394; June, 462,834; July, 552,360; August, 431,262; September, 370,656; October, 350,609; November, 407,395; December, 393,522, making a total of 4,645,201 silver pesos.

The liquor-tax receipts for 1921, in the same unit, were as follows: January, 219,444; February, 181,083; March, 150,246; April, 165,598; May, 165,506; June, 178,205; July, 195,615; August, 161,885; September, 164,507; October, 145,790; November, 159,822; December, 177,665, making a total liquor revenue for the year of 2,065,366 silver pesos.

PERU.

BUDGET.—The budget presented to Congress by the President was provisionally sanctioned by the special session of Congress, with the proviso that no public official or employee may receive in 1922 a salary greater than he received in 1921, and also that the tobacco tax shall be entirely spent for railway construction.

The budget, which was drawn up by the financial adviser and the fiscal agent, provides for an expenditure of Lp. 6,000,000. This is a

cut of approximately Lp. 2,000,000 from the 1921 budget. Congress will take final action at the next regular session.

SALVADOR.

1921 REVENUE.—The Government revenue for 1921 was collected from the following sources: Import duties, 4,398,746.12 colones; export duties, 1,248,46.72 colones; liquor tax, 1,946,081.06 colones; stamped paper and revenue stamps, 456,734.32 colones; direct taxes, 595,993.65 colones; various revenues, 850,389.60 colones; other receipts, 748,932.30 colones; national property, 68,201.32 colones, making a total of 10,313,540.09 colones. The expenditures of 1921 for the administration of the Government were: Presidency of the Republic, 104,978.27 colones; National Assembly, 87,444.09 colones; Department of the Interior, 1,828,540.43 colones; Department of Promotion, 601,438.68 colones; Public Instruction, 895,800.12 colones; Foreign Relations, 100,898.74 colones; Justice, 598,473.44 colones; Charity, 531,144.94 colones; Treasury, 913,306.48 colones; Public Credit, 2,460,101.77 colones; War and Navy, 2,210,915.60 colones; Agriculture, 52,247.52 colones; General Ministry, 141,276.54 colones, making a total expenditure of 10,526,566.62 colones.

URUGUAY.

REAL ESTATE.—La Propiedad Territorial states that the amount of money annually expended in the Republic in the purchase and sale of real estate, exclusive of all other methods of transfer, is 60,000,000 pesos, while mortgages total 35,000,000 pesos, and rents at least 15,000,000 pesos.



LEGISLATION

ARGENTINA.

AIR SERVICE.—The President has issued a decree creating the Aviation Corps, the Fifth Arm of the Military Service. The Government has dissolved the Military Aviation School at Palomar to found Flying Group 1.

BRAZIL.

NATIONAL SUGAR EXCHANGE.—An act of the National Congress, sanctioned by the President on January 7 last, established a national

sugar exchange for the purpose of regulating the price of sugar for exportation, as has been briefly mentioned in the BULLETIN. The exchange is administered by a board of expert members under the chairmanship of the Minister of Finance and the vice chairmanship of the Minister of Agriculture. The new department will have its headquarters in Rio de Janeiro and branch offices in Recife, Maccio, Aracajú, Bahia, Campos, Parahyba, São Paulo, and wherever else they may be necessary. The operation of the exchange is based on the purchase of sugar in such quantities as may be required to keep the price of crystallized sugar on a level of 600 reis per kilo (3.9 cents per pound at the present rate of exchange). The sugar purchased will be exported.

FEDERAL AID FOR PUBLIC ROADS.—A decree of the National Congress, sanctioned by the President on January 11, 1922, establishes a system of federal aid to be extended to the States and the Federal District for the construction and maintenance of public roads. This aid is to consist of a subsidy, which may amount to 50 per cent of the total cost of the road, it being understood, however, that such subsidies must be within the limits of the respective appropriation in the annual budget.

FEDERAL CAPITAL.—Dr. Epitacio Pessoa, President of the Republic, has sanctioned a recent law of the National Congress providing for laying the corner stone of the new Federal capital on the central plateau of Goyaz. The ceremony will take place on the 7th of September, 1922, the one hundredth anniversary of independence.

HOUSES FOR PUBLIC EMPLOYEES.—An act of the National Congress sanctioned by the President January 17 last, provides for the calling of tenders for the construction of homes for Government employees, including laborers, clerks, Army and Navy officers, members of the police of the Federal District and officers of the Federal courts.

When the construction is finished the contractor is to be paid in Government bonds, redeemable at par according as the purchaser pays his installments into the special fund established for the purpose. Full payment is due in 20 years, or may be made in less time if the purchaser desires. He meantime holds the property under a mortgage to the amount of the capital invested, bearing interest not to exceed 9 per cent per annum.

CUBA.

INTERNAL DEBT.—By Decree No. 336 of March 1, 1922, the Secretary of the Treasury is authorized to apply 15 per cent of the weekly customs receipts on the amortization of bonds and interest payments of the internal debt, up to an amount equivalent to a year's interest on the foreign debt of \$35,000,000.

CUBAN EMPLOYEES.—A recent law requires that on all public works of the State, the provinces, or municipalities, whether carried on under their own auspices or by contractors, at least 75 per cent of the employees shall be Cuban citizens. Infractions of this law are punishable with a fine of \$30 to \$500.

SCHOOL OF AGRICULTURE FOR WOMEN.—The Secretary of Agriculture has issued a decree establishing the Free School of Agriculture for Women.

DOMINICAN REPUBLIC.

DELINQUENT MINORS.—A recent Executive order provides that until houses of correction are established, minors under 18 years of age who are condemned to imprisonment in a house of correction may be given into the custody of managers or owners of shops and factories, or of families, provided no labor unsuitable to the age of the delinquents is exacted and they are allowed part of the day for education. Applications will be received by the district attorney either directly or through religious or child-welfare societies, and he is charged with the duty of seeing that minors receive proper care.

SALES TAX.—A sales-tax law went into effect March 1, 1922. It provides for a tax paid by means of stamps on all proprietary and patent medicines, toilet soap, perfumes, and alcoholic beverages. The tax on the first and third items is \$0.01 on each \$0.10, and on the second, \$0.01 on each \$0.20. On alcoholic beverages the amount varies from \$0.01 on \$0.10 to \$0.15 on \$1.

BANKRUPTCY LAW.—The bankruptcy law has been extensively amended by Executive Order No. 718.

PERU.

SILVER ALLOY COINAGE.—Law No. 4471, January 26, 1922, authorized the issue of silver alloy coinage to the amount of 7,045,932 Peruvian pounds in place of the paper currency guaranteed by gold, which is now in circulation. The coins are to have a value of one sol and half a sol. The Government will derive a profit of approximately 175,000 Peruvian pounds, says the West Coast Leader.

URUGUAY.

INTERNATIONAL AMERICAN CHILD WELFARE OFFICE.—Since there is so much interest in the approaching Third Pan American Child Welfare Congress to be held in Rio de Janeiro in August, the text of the following decree is given in full:

In view of the acceptance by the Second Pan American Child Welfare Congress (Segundo Congreso Americano del Niño), assembled in May, 1919, in this capital (Montevideo), of the proposal presented by its president, Dr. Luis Morquio, for the creation of an International American Child Welfare Office, to be the center in America for study, action, and propaganda in relation to all matters concerning the child;

Considering that special interest exists that the aforesaid office, which will have to be constituted by international agreement, should be definitely established, and that consequently the regulations governing it should be proposed for the acceptance of the American Governments to participate in the agreement;

Considering that the meeting of the Third Pan American Child Welfare Congress at Rio de Janeiro in the course of the present year presents an opportunity to carry out the aforementioned plan;

The National Council of Administration decrees:

ART. I. That Dr. Luis Morquio as president, Dr. Julio A. Bauza, Dr. Prudencio de Pena, Dr. Dardo Regules, Dr. Rafael Schiaffino, Dr. Victor Zerbino, and Dr. Roberto Berro be designated to form a commission for the purpose of formulating the statutes of the office above named, with the object of submitting them to the aforementioned Congress at Rio de Janeiro for its approval.

ART. 2. Let this be communicated, etc.

MINISTRY OF PUBLIC INSTRUCTION,

Montevideo, January 24, 1922.

SOCIAL LEGISLATION IN URUGUAY.—Five hundred copies of the official compilation bearing the foregoing title have been placed at the disposition of the legations and consulates of the Republic for distribution.

DAY OF REST.—On January 5, 1922, the National Council of Administration issued a decree establishing regulations for the day-of-rest law of December 10, 1920, as applied to railway employees and the crews of boats of national registry. In some cases 2 days of rest may be taken after 12 days of work, or 4 days of rest after 24 days of work. Provision is also made for giving part of the allotted days as vacation. (See the *Bulletin* for September and October, 1921.)

PROHIBITION IN ARMY.—By a presidential decree of January 18, 1922, the consumption of alcoholic beverages is prohibited in all army units and buildings. This is in line with the prohibition last year of such beverages in the Navy and in canteens.

VENEZUELA.

DEVELOPMENT OF NATURAL PRODUCTS.—The President has issued a decree governing the exploitation of natural products which covers hardwoods for building or dyeing; saps, latex for rubber and gutta-percha taken from trees, shrubs, and vines; fruits, tanning woods and barks; balsams and terebinth, sarsaparilla and seed for essential oils; oils from seed and plants; gums and resins; vegetable wax; textiles and fibers, pulp or cellulose; barks and withes; medicinal plants; orchids and bulbs; and any other like products whether from national forests or unoccupied lands, or from the estates or holdings of individuals. The exploitation of natural products may be carried on only in accordance with the provisions of the Law of Mountains and Waters, and the new decree gives directions for requests for permits to exploit natural products.

INTERNATIONAL TREATIES

ARGENTINA-URUGUAY.

TRIANGULATION OF THE URUGUAY RIVER.—On February 8, 1922, ratifications of the convention between Argentina and Uruguay on the triangulation of the Uruguay River were exchanged in Montevideo. The convention was signed April 11, 1918. It has the following provisions:

ART. I. The Military Geographical Institutes of Uruguay and Argentina will together perform the work of triangulation of the Uruguay River, common boundary of the two countries, from the mouth of the Cuareim to the mouth of the Uruguay in the estuary of the River Plate, so that the operation shall form a chain of triangles with the vertices on each bank of the river.

ART. II. The work mentioned in Article I shall be done in such a way as to serve as part of the sheets of the map on the scale of 1 in 1,000,000 which correspond to that zone.

The remaining articles have to do with the commission to be formed, with the technical details, and with the exchange of ratifications. (*Diario Oficial, Uruguay, February 16, 1922.*)

BOLIVIA.

INTERNATIONAL CONVENTIONS.—Bolivia has signed the additional protocol of the Versailles Treaty. The Hispanic-American Postal Convention signed in Madrid November 13, 1920, has been ratified by Bolivia, as well as the Peace and Friendship Treaty between Bolivia and China signed on December 3, 1919, and the arbitration treaties concluded with Colombia and Venezuela in 1918 and 1919, respectively. The Bolivian Envoy Plenipotentiary in Paris was instructed to sign the protocol relative to the statutes of the Permanent Court of International Justice. (*President's Message, October, 1921.*)

BRAZIL-PARAGUAY.

EXTRADITION TREATY.—On February 24, 1922, a treaty for the extradition of criminals was signed in Asunción by the Minister of Foreign Affairs of Paraguay and the Minister of Brazil. (*Diario, Asunción, February 24, 1922.*)

BRAZIL-URUGUAY.

EXTRADITION TREATY.—By an act of the Brazilian Congress, sanctioned by President Pessoa on February 4 last, approval was given to the protocol signed in Montevideo, December 7, 1921, in addition to the treaty for the extradition of criminals concluded December 27, 1916, between Brazil and Uruguay. (*Diario Oficial, February 7.*)

COLOMBIA.

BOLIVIAN-COLOMBIAN ARBITRATION TREATY.—On January 16, 1922, the President of Colombia approved the general arbitration treaty between Bolivia and Colombia, signed November 13, 1918, and sanctioned by the Congress of Colombia by Law No. 61, of 1919. (*Diario Oficial, January 26, 1922.*)

COSTA RICA-UNITED STATES.

EXTRADITION TREATY.—On January 21, 1922, in San José, the plenipotentiaries of Costa Rica and the United States signed a treaty for the extradition of criminals. The President of Costa Rica has submitted the treaty to Congress for approval. The text of the treaty is published in the *Gaceta Oficial* of January 26, 1922.

VENEZUELA.

EXTRADITION TREATY.—On January 19, 1922, the Venezuelan Minister of Foreign Relations and the American chargé d'affaires *ad interim* in Venezuela signed the extradition treaty whereby both Governments promise to give up to justice individuals accused or convicted of specified crimes in either one of the signatory countries. (*Universal, Caracas, January 20, 1922.*)

PERMANENT COURT OF INTERNATIONAL JUSTICE.—According to the *Revista de Derecho* for September and October, 1921, the National Congress on June 21, 1921, ratified the League of Nations resolution of December 3, 1920, establishing a Permanent Court of International Justice. On September 7, 1921, the President of Venezuela approved the sanction of Congress.

ITALIAN CLAIMS.—On February 9, 1922, in Caracas the Venezuelan Minister of Foreign Affairs and the Ministry of Italy in Venezuela exchanged ratifications of the convention signed December 21, 1920, by which Venezuela agreed to pay 300,000 bolivares in settlement of the claims of Italian subjects. Payment has already been made.



PUBLIC INSTRUCTION AND EDUCATION

ARGENTINA.

TEACHERS' VACATION COLONY.—Upon the suggestion of the Argentine Ambassador to the United States, Dr. Tomás Le Breton, a teachers' association, called the "Camping Club of Buenos Aires," was formed to open a trial vacation colony. The funds for the enterprise were supplied by the Government, the National Council of Education furnishing 1,000 pesos, the Minister of Instruction railroad fares, and the Minister of War the tents and other necessities for establishing the camp. There were 30 members of the party, which set up its camp at Mar del Plata. Each camper served his turn as cook, guard, or at other services. The schedule was planned more or less on military lines. During the day free time was spent in walks, excursions, visits to near-by points of interest, reading, fishing, and other diversions. The teachers have decided that camping is practicable and that women teachers and families should try such vacations.

BOLIVIA.

SECONDARY SCHOOLS FOR GIRLS.—The Minister of Instruction has issued a decree providing that the studies above the third year in the secondary schools for girls will be approved for primary teachers' certificates if pedagogy and child psychology are taught in said institutions.

CHILE.

RAILWAY UNIVERSITY.—The courses of the Railway University, founded three years ago for all the employees of the State railroads without distinction of rank or trade, have been extremely successful. The curriculum covers five years; the first three are devoted to a general preparatory course, and the last two are given to specialized studies. The teachers are all competent engineers who give their services free of charge.

SCHOOL SAVINGS.—La Información in its January number gives an interesting account of the development of school savings (established by executive decree as a result of the first Savings Conference, held in Santiago in 1915), through the active support of the teachers and the cooperation of private authorities and schools. The movement is aided by a propaganda department, lectures, the publica-

tion of various magazines, and the distribution of circulars, as well as by competitions, prizes, savings stamps, and the annual Savings Festival celebrated in the schools of the Republic. The total school savings to date amount to 600,000 pesos, national currency, a sum which the new small savings stamps, soon to be issued in denominations of 5 and 10 centavos, are expected greatly to increase.

COSTA RICA.

COSTA RICAN SCHOLARSHIP STUDENTS.—The Costa Rican students who were awarded the 10 scholarships given by the Mexican Government arrived in Mexico City on March 28 to take up their studies.

The Institute of Alajuela held an entertainment complimentary to the Mexican Legation in Costa Rica to express gratitude for the generous action of Mexico toward Costa Rica.

CUBA.

EVENING CLASSES FOR WOMEN.—On the first of February evening classes for women were opened in the Emigrant's House in Habana. They include general instruction and lectures on psychology, child hygiene, and domestic science.

SCHOOL OF AGRICULTURE FOR WOMEN.—See page 622.

DOMINICAN REPUBLIC.

ARITHMETIC CLASSES.—Free Sunday classes in arithmetic, open to persons of both sexes, are being given in Santo Domingo by the director of the Santa Ana Academy. These are the first classes offered on Sunday, and mark an advance in popular education.

ECUADOR.

WOMEN AND HIGHER EDUCATION.—Two universities of Ecuador have recently granted the doctor's degree to women, Dr. Matilde Hidalgo being the fourth woman to receive the degree of doctor of medicine, while the other degree was conferred in the department of philosophy and letters. An indication of the feminist evolution quietly proceeding in the Republic is the proportion of women—30 in a total of 300 students—pursuing advanced courses in the University of Guayaquil.

MEXICO.

NEW UNIVERSITY BUILDING.—Half a million gold pesos will be appropriated for the new building of the School of Dentistry of the National University. Architects have already been summoned to submit plans for the building, which is to be of the true colonial type.

SCHOOL FOR HOME MAKING.—A school for instruction in home making, the first of its kind, has been established in Mexico City by the Department of Public Education and named after the well-known Chilean poet, Gabriela Mistral.

PARAGUAY.

PARAGUAYAN INSTITUTE.—The Paraguayan Institute was founded in 1895, by a group of young enthusiasts, for promoting national culture in arts and letters. The literary section contained a library and published a review of science, letters, history, and ethnography, also providing a series of interesting lectures, concerts, and literary and musical evenings. In addition it held classes in gymnastics, fencing, drawing, music, painting, languages, business methods, and other subjects. In 1917 the institute was reorganized and was housed in a fine building erected for its use.

Under the reorganization plan the musical classes were expanded into an Academy of Music, which is taking its place as one of the best in South America. This academy has produced a number of promising graduates, some of whom have gone to Argentina and won distinction in the conservatory of that country. On last Columbus Day a very fine musical program was furnished by the students of music in the Paraguayan Institute.

In July, 1919, the Carnegie Peace Foundation donated to the Paraguayan Institute a library of about 2,000 volumes on literature, history, and jurisprudence by the best authors of the United States. This gift was much appreciated as a manifestation of Pan American cooperation.

VOCATIONAL SCHOOL FOR WOMEN.—A vocational school for women has been opened in Asunción.

PERU.

HONORARY DEGREE.—At a public session of the Council of the University of Cuzco, Dr. L. S. Rowe, Director General of the Pan American Union, was honored by admission to the council as an honorary doctor of the School of Political and Economic Sciences, the diploma and ribbon being conferred in Dr. Rowe's absence on his representative, Dr. Romualdo Aguilar.

EVENING SCHOOL.—The Associated Electrical Companies of Lima have opened an evening school under the direction of their engineers and technicians for the benefit of their workmen and employees. Subjects related to electricity and mechanics will be taught.

SALVADOR.

PUBLIC INSTRUCTION.—From Presidential messages delivered on two occasions, the following facts on education are taken: During

1921, 808 official primary schools were functioning. Of this number there were 513 city schools, 243 for boys, 252 for girls, and 18 for both sexes; 207 rural schools, of which 24 were for boys, 18 for girls, and 165 for both sexes; and 88 night schools for adults, of which 58 were for men and 30 for women.

The registration and average attendance at the primary schools for the year were as follows:

	Registra- tion.	Average attendance.
Boys' day schools.....	20,984	13,284
Girls' day schools.....	19,197	13,134
Men's night schools.....	2,699	1,313
Women's night schools.....	1,572	785
Total.....	44,452	28,516

Primary instruction was also given in municipal private schools and in asylums and hospitals. The total registration in these centers of instruction was 7,444, with an average attendance of 5,954. The secondary schools gave satisfactory results during the school year of 1921. There were 568 liberal arts students. Of these 330 were in the National Institute, 40 graduating. Forty-one students took the course in the National School of Finance and Commerce, of whom 8 were graduated as bookkeepers. The Normal Institute for Young Men has been installed in a large concrete building erected for this purpose; 20 students with the title of primary school teacher were graduated. The Normal School for Young Women graduated 13 teachers.

Physical culture has received much attention. The commission in charge has engaged a French instructor to direct the physical training of the school children and the Army.

On September 7, 1920, the General Sanitation Bureau was given charge of the technical side of the school hygiene service, the administrative and instructive aspects being under the Bureau of Primary Instruction. The joint decree of the departments of Government and Public Instruction issued on December 22, 1921, gave the regulations defining the functions of the School Medical Section, its field of operation being extended to include the health of both pupils and teachers.

SCHOOL SAVING STAMPS.—At the suggestion of the Vice President of the Republic the Post Office Department will issue school saving stamps to encourage children to save their money. The Vice President has offered a prize of \$100 for the best stamp designed by a Salvadorian artist.

SCHOOL LUNCHROOMS.—The municipality of San Salvador has appropriated 200 colones monthly for the school lunch rooms.

SCHOOL HYGIENE.—The Directorate of Sanitation has issued an order to school principals to install filters for drinking water in the school buildings. Each pupil is required to have an individual drinking glass.

The inspection section of the Education Department has urged the establishment of medical and dental services for the school children of San Salvador, and the present city government is preparing to incorporate service of this kind in the city schools.

URUGUAY.

SCHOOL AND COMMUNITY.—The *Anales de Instrucción Primaria* report that, as a result of the vacation classes for teachers a year ago, community work of various kinds has been organized in connection with many rural schools. Numerous parents' associations have been started, usually taking under their charge the duty of providing school clothes and a school lunch for poor children. One teacher arranged that the contribution to the school lunch should not be in money but in milk or other suitable supplies, so that all the children in the school were served with an identical lunch. The same teacher's sewing classes made several layettes and outfits for small children, adopting four to whom special care is given for their general welfare. School libraries, lectures, and evening classes for adults are other activities in which the teachers of Uruguay have been the guiding spirits.

SCHOOL FOR ADULTS.—At the petition of the Society for the Promotion of Agriculture of Montes, in the Department of Canelones, the National Council of Primary and Normal Instruction has granted the use of a school building and supplies for a winter course for adult farm laborers from May to September. The society makes itself responsible for 40 pesos a month.

TEACHERS' VACATION COURSES.—The vacation courses given in Montevideo from the first part of January to the latter part of February were attended this year by 742 teachers.

VENEZUELA.

PUBLIC LIBRARY.—An American and his wife have founded in Valencia, capital of the State of Carabobo, a library which is open to the public. Pictures, maps, and other objects of interest are also on exhibition.

SCHOOL IN ZULIA.—On March 1 the Employees' Assembly decided upon the formation of a school in Zulia, where 500 pupils will be given instruction and taught a trade. The school will be founded with funds given by the State employees, who will contribute 2 per cent of their salaries.

SOCIAL PROGRESS

ARGENTINA.

CARE OF BACKWARD CHILDREN.—The Republic of Argentina is developing an extensive system for the care of backward children and youthful delinquents. The Regional Colony Asylum for 800 backward children, a country open-door institution covering 250 hectares, has been established in Torres; the Regional Asylum for Defectives in Córdoba; and the reformatory for Homeless Children in Olivera, Province of Buenos Aires. In Buenos Aires there is a temporary asylum for abandoned children where they are collected and classified as to mental deficiency or competency and sent to the proper institution to be cared for with others of the same kind. The deficient children are placed in three classes, according to the degree of feeble-mindedness, for the purposes of instruction and treatment. Children living at home who are slightly defective are given special attention in the schools, both they and the children in institutions being given primary instruction as well as training in some manual trade to provide them with a means of livelihood.

BOLIVIA.

SEWERS IN LA PAZ.—The Ulen Contracting Co., of New York, completed in January of this year the sewers in La Paz for which it had a contract with the Bolivian Government, as the BULLETIN has already stated. From Ingeniería Internacional are taken the following data concerning these sewers:

In some sections the grade in the pipes reaches 20 per cent; the diameters used are 10, 15, 20, 30, or 45 centimeters. The main pipe has sections 60 and 75 centimeters in diameter, and is of concrete; the first section has a grade of 2 per cent and the latter of 1 per cent. The main pipe is arranged for the passage of 1,236 liters per second, the calculations being based on a future population of 360,000 inhabitants and a rate of somewhat more than 300 liters per capita. The total pipe length is 64,118 meters, including 5,735 meters of the length of the concrete main pipe.

The cost of the work, according to the contract, was \$1,042,969, payment of which was made by a bond issue at 90, with 6 per cent interest on the face value. The bonds are to be amortized in 16 years, with biyearly payments of \$115,000.

At a total cost of \$955,803, the same corporation has supplied the city of Cochabamba with a sewer system containing 52,000 meters of pipes of varying dimensions, 67 water tanks, and 288 manholes.

BRAZIL.

THIRD PAN AMERICAN CHILD WELFARE CONGRESS.—Among the national representatives designated by the organizing committee of the congress (which meets, as already mentioned in the BULLETIN, in the latter part of August), are the following: Argentina, Dr. Araoz Alfaro; Uruguay, Dr. Luis Morquio; Chile, Dr. Ismael Valdés Valdés; Paraguay, Dr. R. Odriozola; Venezuela, Dr. Diego Carbo-nell; Ecuador, Dr. Esquieta Peres; and Peru, Dr. Paz Soldán.

BUREAU OF CHILD WELFARE.—According to information received by the United States Children's Bureau, a bureau of child hygiene has recently been created in the State department of health, under the direction of Dr. Fernandez Figueira, president of the Brazilian Pediatric Society. The Bureau is planning to establish child health centers.

HOUSES FOR PUBLIC EMPLOYEES.—See page 621.

CHILE.

PROGRESS IN FEMINISM.—A new political body has been formed under the name of the Progressive Feminist Party with the purpose of gaining all the rights claimed by women. The platform is as follows: (1) The right to the municipal and parliamentary vote and to eligibility for office. (2) The publishing of a list of women candidates of the party for public offices. (3) The founding of a ministry of public welfare and education, headed by a woman executive, to protect women and children and to improve living conditions.

The founders of the party are carrying on a quiet campaign throughout the country. No distinction is to be made between the social positions of party adherents, the cooperation of all branches of feminine activity being sought to further the ends of the party. The press is investigating public opinion regarding the new movement. Congress has already received favorably a bill to yield civil and legal rights to women. The greatest pressure has been brought to bear to obtain the concession of legal rights to women to dispose of certain property, especially the product of their own work, and the transference to the mother, in the father's absence, of the power to administer the property of the child and the income therefrom until the minor's majority. The concession of these rights, it is considered, will elevate the authority of the mother and bring more general consideration for women, as well as benefits to family life and social welfare.

GIRLS' CAMP.—The Young Women's Christian Association of Santiago opened a vacation camp for girls at Angol. It was situated in a pine grove amid beautiful and healthful surroundings.

WORKING CLASS CHILDREN.—Among the numerous welfare organizations which have been started in Chile during recent years may be mentioned the Arturo Prat Society, all of whose members are laborers. It is devoted to the protection of children, and its work consists of the following: Complaint to the authorities of mistreatment of children by parents or guardians; cooperation in furthering compliance with the child-welfare law; action to obtain, in accordance with the law recently put in force, day nurseries in all factories employing more than 50 women over 18 years of age; promotion among children of habits of economy, courtesy, and love of reading; and prevention of the employment of children by parents, guardians, or employers in labor beyond their physical strength.

COLOMBIA.

FIRST PUBLIC HEALTH STATION.—The first public health station of the Colombian Red Cross has recently been opened on the Avenida de la República, Bogotá. At this station women are instructed in the proper care of their children, who are weighed so that their mothers will know what progress is being made. Patients are vaccinated against smallpox, and many other services of great benefit to the public in general are rendered gratuitously. The Red Cross is also conducting an antialcohol campaign.

HOOKWORM.—In order to stop the spread of hookworm, the Minister of Agriculture secured in 1919 the cooperation of the Rockefeller Institute. The treatment for the disease is under the care of an Institute official and Colombian assistants, while the Government is in charge of the sanitation of the soil. The *Revista de Higiene* of July 18, 1921, shows that the campaign was at that time under way in the Departments of Antioquia, Norte de Santander, Cundinamarca, and Boyacá. Those conducting the campaign gave from July, 1920, to July, 1921, 38,068 lectures to audiences aggregating 253,298 persons, for the purpose of instructing the people in the prophylaxis of the disease. They also distributed 136,242 pamphlets, inspected 73,300 houses, caused 37,210 toilets to be built, and gave 37,060 treatments. Dr. V. A. Heisser, of the Rockefeller Foundation, states that in none of the countries where campaigns have been conducted against hookworm has so much work been done in the same length of time.

CUBA.

BUDGET FOR PROVINCE OF HABANA.—See page 618.

DOMINICAN REPUBLIC.

LEPROSARIUM.—The leprosarium at Nigua has 17 patients, who are receiving the chaulmoogra oil treatment. Each patient has a

room to himself, one of two in a small reinforced concrete house. Everything possible is done for the comfort and entertainment of the inmates; moving pictures, a pianola, and a phonograph are provided. Six Sisters of Mercy reside at the leprosarium.

SOCIETY FOR THE PREVENTION OF CRUELTY TO ANIMALS.—A branch of this society has been recently organized in Santo Domingo and is preparing to enter on a campaign of active work.

DELINQUENT MINORS.—See page 622.

ECUADOR.

TREATMENT FOR LEPERS.—The Minister of Foreign Relations has cabled to Washington for 8 liters of chaulmoogra oil for the treatment of the lepers at Pifo.

BOY SCOUT NATIONAL ASSEMBLY.—The first national assembly of the Boy Scouts of Ecuador was held in Quito during the Centenary celebration in May and was attended by delegates from all parts of the Republic. They paraded and gave an exhibition of scout training. The Ecuadorean boy scout who visited the United States is to give a series of talks on the Boy Scouts of America in school centers.

A delegation of Girl Guides of Guayaquil also went to Quito to attend the Centenary celebration.

MEXICO.

PUBLIC HEALTH SCHOOL.—The Department of Public Health opened a public health school during the early part of February of this year.

ESTABLISHMENT OF FREE WORKSHOPS.—In the establishment of free workshops the Department of Commerce, Industry, and Labor is to carry out an extremely important measure for the economic development of small industries. These shops, which will be provided with all necessary machinery, will be under the supervision of a master mechanic, having also an art director, an administrator, and a sales agent. To enter the shops persons are required to be able to read, write, and understand elementary arithmetic. They are furnished with raw materials and tools, and for the first months are also paid a wage of 2 pesos daily. From the sales price of the finished articles made by the students there are to be deducted the price of raw material, 5 per cent for the running expenses of the shop, and 5 per cent for the workmen's reserve fund; the remainder is to be turned over to the workman as his compensation.

After a four months' course any workman who desires to establish his own shop may be provided with raw material and tools, purchased from the reserve fund of the free machine shop where he has learned his trade. It is proposed also to establish a cooperative society composed of the workmen trained in such shops.

PANAMA.

TUBERCULOSIS STUDIES.—Dr. Luis De Roux has been selected by the Panaman Government to visit the United States to make investigations, scientific studies, and observations as to the treatment of tuberculosis preparatory to the establishment of the tuberculosis ward of Santo Tomás Hospital and to the initiation of the campaign against this disease.

COLON FREE CLINIC.—During the first six months that the Colon Free Clinic of the Cristobal Women's Club, whose good work has already been mentioned in the *Bulletin*, was in operation it handled over 10,000 cases and reduced infant mortality and the tuberculosis death rate. The infant death rate in Colon in 1919 was 155 per thousand, in 1920, 145 per thousand, and in 1921, 143 per thousand, which is the lowest infant mortality rate ever recorded in Panama, considered especially gratifying in view of the fact that over 80 per cent of the city's population is colored. The reduction last year is chiefly attributed to the clinic's baby welfare work. The tuberculosis death rate, which was 4.13 in 1919, was 2.02 in 1921. The complete report from June 5 to December 31, 1921, is as follows:

Surgical cases treated.....	3,529
Medical cases treated.....	3,227
Prenatal cases treated.....	307
Baby cases treated.....	1,237
Smallpox vaccinations.....	2,674
Free meals given patients.....	5,000
Specimens sent to laboratory.....	326

PARAGUAY.

CHILDREN'S CLINIC.—In 1921 the children's clinic in connection with the milk station in Asunción was attended by 2,139 infants and 2,486 children between the ages of 2 and 12 years.

HYGIENE AND SANITATION.—The report of the National Department of Hygiene for the year 1921 contains much interesting information. Among the advances was the establishment of a dental clinic by the Odontological Society of Paraguay. The eye, nose, and throat clinic had 2,841 visits. The commissions of the sanitary zones accomplished a great deal of useful work, including the removal of prejudice against sanitary measures in the minds of the people and the inculcation of a knowledge of the danger of inexperienced care; 8,060 treatments were given for malaria, 1,484 for general ailments, 1,177 for grippe, and 92,986 for hookworm and similar diseases, while 19,687 vaccinations were performed.

Arrangements have been made with the Rockefeller Foundation to enter upon a five-year sanitary campaign with a monthly expenditure

of 5,000 gold pesos, part of which the Foundation will pay until the fifth year.

VACCINATION AGAINST TYPHOID.—The Army director of sanitation has had many recruits vaccinated against typhoid and paratyphoid by a polyvalent vaccine prepared locally. The results have been excellent.

PERU.

SOCIETY FOR THE PREVENTION OF CRUELTY TO ANIMALS.—The Peruvian branch of this society, founded in September, 1919, was incorporated early this year.

CHILD LABOR.—The inspector of the labor of women and children, hoping to prevent truancy, has requested the cooperation of the police in enforcing the law which forbids children under 14 years to engage in street trading of any nature, allowing it to those between 14 and 18 who have obtained the proper authorization.

HOUSES FOR WORKMEN.—The Dominican fathers at Chucuito, a suburb of Callao, are planning as relief for housing congestion in that port to erect houses for laborers on some of their vacant land. Sixty portable houses, such as those from Seattle, which were recently exhibited in Lima, will probably be put up.

VACCINATION.—Vaccination against smallpox is required of pupils entering the Callao schools.

SOCIAL HYGIENE.—The second lecture on social hygiene, under the auspices of the Popular University, was given in a moving picture house of Vitarte, a manufacturing suburb of Lima. It was illustrated by a film on syphilis. The third lecture in the series was held in the Students House in Lima.

ANTICANCER CAMPAIGN.—Dr. José Mostajo, president of the permanent commission for cancer control, has been appointed by the Government to study anticancer leagues in the United States and Europe.

SALVADOR.

HOOKWORM OFFICE.—So many children appear at consultation hours at the hookworm campaign office that it has been difficult to attend to them all.

STATISTICS OF FREE CLINICS.—The Public Charity Society of San Salvador sent 105 patients to the hospital during 1921; and gave consultations to 9,950 adult patients, and to 4,489 sick children. The society also sent doctors to the homes of 360 sick persons upon their request. The Emergency Night Clinic, Botón Azul, treated 753 persons, the Night Prophylactic Clinic of Santa Lucía ward treated 2,850 men, and that of Concepción ward 761 patients. All patients treated in all the clinics of the city numbered 18,163. The

society also maintains clinics in the Departments of Sonsonate, San Miguel, and Santa Ana, in which 1,315 patients were treated.

The Gota de Leche (milk station for babies) from its opening September 15, up to December had assisted 423 sick children, only 2 of whom died; issued 277 prescriptions; and furnished 7,453 bottles of milk.

UNITED STATES.

INTERNATIONAL CONGRESS OF OPHTHALMOLOGY.—An International Congress of Ophthalmology was held in Washington from April 25 to 28 last. Of more than 600 delegates registered, approximately 60, among them some of the world's most famous oculists, came from foreign countries, including a notable representation from Latin America. On the program, which was issued in English, Spanish, and French, there were six important papers by delegates from Cuba, Chile, Mexico, and Peru. Other papers were given by French, English, Swedish, Spanish, Belgian, Jugo-Slav, Canadian, and American ophthalmologists. This congress offers another inspiring example of solidarity in the world of science.

PAN AMERICAN CONFERENCE OF WOMEN.—On April 20, in accordance with the announcement previously made in the *BULLETIN*, the Pan American Conference of Women summoned by the National League of Women Voters met in Baltimore. Delegates from twenty-one American countries, including some from Porto Rico and the Philippines, came to this international gathering, where for three days subjects relating to the welfare of women and children in all spheres of activity were the topics of discussion.

As the *BULLETIN* intends to give in an early number a more detailed account of the transactions of this highly significant meeting, the present note will be confined to the list of the Latin American delegates and mention of a resolution of far-reaching importance.

The Latin American members of the Conference, who ably represented their respective countries, were as follows: Argentina, Sra. de Le Bretón; Bolivia, Sra. Arcadia Calderón de Zalles; Brazil, Dona Bertha Lutz, Dona Beatriz de Queiroz, Miss Annie d'Armand Marchant; Chile, Sra. de Mathieu, Srta. Graciela Mandujano, Srta. Margarita Mieres, Sra. Sofía de Ferrari Rojas, Srta. Luisa Zanelle López, Srta. Margarita López de Collio; Colombia, Sra. María Suárez de Coronado, Srta. Hortensia Coronado, Srta. María Ordóñez; Costa Rica, Sra. Sara Casal de Quirós; Cuba, Sra. Emma López Sena de Garrido, Sra. Elena de la Pena, Srta. L. Z. del Portillo; Dominican Republic, Sra. Ofelia P. de Joubert; Ecuador, Sra. Matilde de Carbo, Srta. Beatriz Carbo, Srta. Hortensia Balarezo, Srta. Pastoriza Flores, Srta. María Flores; Guatemala, Sra. de Sánchez Latour; Haiti, Mme. Charles Dubé; Honduras, Srta. Mercedes Lainez; Mexico, Srta. Elena

Torres, Sra. Aurora Herrera, Sra. Luisa Garza, Srta. Eulalia Guzmán, Srta. María Rentería de Meza, Sra. Julia Nana de Ruisánchez, Sra. M. C. Conde de Ávila, Srta. Luz Vera; Nicaragua, Srta. María Clotilde Vega, Srta. Juanita Molina; Panama, Sra. Ester Niera de Calvo; Paraguay, Srta. María Felicidad Gonzales, Srta. Ruby Gutiérrez; Peru, Srta. Margarita Conroy, Srta. Zerla Antay, Sra. Carmen de Pinillos, Srta. Laura Memeses del Caprio; Uruguay, Sra. Olga Capurro de Varela, Sra. Celia Paladino de Vitale, Sr. Carlos E. Monteverde; and Venezuela, Sra. Mercedes de Guevara. In addition to the foregoing Latin American members of the conference, there were 27 delegates from Canada and 50 from the United States, besides eight from Porto Rico and one from the Philippines.

The most important resolution passed by the conference was that creating a provisional association for the advancement of women in South and Central America. This new organization aims to bring about the education of all women; establish higher educational standards in women's schools; establish the right of married women to control their own property and to collect and control their own wages; to organize public speaking among women; to see that women have an opportunity for the free use of their talents in any and all lines of endeavor; to educate public sentiment by way of preparation for the vote; and to promote understanding and concord between all the nations in the Americas with a view to assuring permanent peace on this continent.

Mrs. Carrie Chapman Catt, president of the International Suffrage Association, was elected honorary president, and Mrs. Maud Wood Park, president of the National League of Women Voters, provisional president. The vice presidents are Srta. Elena Torres, of Mexico, Sra. Ester Niera de Calvo, of Panama, and Dona Bertha Lutz, of Brazil, while the treasurer is Sra. María Suárez de Coronado, of Colombia, now residing in Washington. As Mrs. Park is unable to serve, the position will be provided for later.

URUGUAY.

GARDEN DISTRICT.—A five-sided plot of irregular shape near the Parque Rodó in Montevideo has been laid out in winding roads and 29 lots, which will soon be sold at auction by the municipality with the proviso that only three-fifths of the plot may be built upon, the rest to be planted to trees or gardens.

HOSPITAL FOR CHILDREN.—The milk station of Minas has received an appropriation of 4,000 pesos for a children's hospital. It was founded and is directed by Dr. Tula Rovira de Ricci.

SOCIAL HYGIENE.—Dr. Paulina Luisi has been honored by an invitation to represent in Uruguay the Director General of the Inter-

national Congress of Social Hygiene and of Prophylactic, Sanitary and Moral Education which is to be held in Paris next December. Dr. Luisi is asked to present a report on sex education in the schools. She with Dr. Juan Carlos Brito del Pino will represent the Republic at the conference.

VACCINATION.—The Health Department of Montevideo has distributed broadcast a leaflet recommending vaccination against typhoid fever, and has opened a free station for vaccination against smallpox, which is obligatory for minors.

INTERNAL SECRETIONS.—Dr. Juan C. Mussio Fournier, an Uruguayan physician now in Paris, has been honored by being asked to edit the volume on Internal Secretions in Prof. Toulouse's Treatise on Medicine. Dr. Mussio Fournier has made original clinical investigations in this particular branch of physiology.

GARBAGE INCINERATOR.—A Milwaukee engineer has been in Montevideo studying the construction of the municipal garbage incinerator, which he considered admirably adapted to its purpose, it being especially noteworthy that the incineration produces no disagreeable odor and requires little labor. The plant was designed by Juan P. Fabini, an engineer of Montevideo.

Y. M. C. A. CAMP.—The sixth university camp of the South American Federation of Christian Associations was held in Piriapolis in February, with an attendance of Argentine, Brazilian, Chilean, and Uruguayan university men. Fifteen large tents were grouped on a hillside around a central building where the meetings were held. The daily program began with a gymnasium class and closed with a camp fire.

AMERICAN HYGIENE CONFERENCE.—This South American conference will be held in Montevideo early in 1923. Among the subjects for discussion are the following: Typhoid fever, paratyphoid, water-borne diseases, diphtheria, leprosy, beri-beri, exanthematous typhus, bubonic plague, yellow fever, malaria, grippe, campaign against alcoholism, tuberculosis, venereal diseases, and professional diseases.

SOCIAL LEGISLATION IN URUGUAY.—See page 623.

DAY OF REST.—See page 623.

PROHIBITION IN ARMY.—See page 623.

INTERNATIONAL AMERICAN CHILD-WELFARE OFFICE.—See page 622.

VENEZUELA.

OFFER TO THE RED CROSS.—A group of Caracas pharmacists has offered to put up free of charge prescriptions needed by the patients of the Red Cross Dispensary.



GENERAL NOTES

ARGENTINA.

LA PLATA ARTS MUSEUM.—A commission has been appointed to establish a Museum of Fine Arts in the city of La Plata.

WAGNER SOCIETY.—The Wagner Society, of Buenos Aires, which now has 1,643 members, has published a report of the 43 concerts held during the year, and its plans for future programs. It advocates the building of a large concert hall with a seating capacity of 4,000 persons, for organ recitals and other concerts.

BRAZIL.

DIPLOMATIC RECIPROCITY.—The Brazilian State Department has officially announced the promotion of its legation in Mexico to the rank of embassy, in order to reciprocate the same step taken by Mexico with regard to her diplomatic representation in Rio de Janeiro.

CHILE.

CHILEAN DELEGATES.—The Chilean delegates to the Chilean-Peruvian conference, which opened in the Pan American Building May 15, are Señor Don Luis Izquierdo, Minister of Chile in Argentina, and Señor Don Carlos Aldunate Solar, ex-president of the Senate and professor of civil law. The counselor of the delegation is Señor Don Alejandro Alvarez, adviser of the Ministry of Foreign Affairs.

UNITED STATES TOURISTS.—During the early months of this year Chile was visited by a large number of tourists from the United States, chiefly in parties organized by the American Express Co. The press expressed great pleasure at their coming and urged the authorities and the public to extend every courtesy to the travelers.

AMERICAN EMBASSY.—The United States Government has purchased a residence opposite the Parque Forestal in Santiago, which will be used for its Embassy.

COLOMBIA.

BOTANICAL EXPEDITION.—A botanical expedition under the auspices of Harvard University, the New York Botanical Garden, and the Smithsonian Institution sailed in April to make collections on

the central and occidental cordilleras of Colombia. This expedition is one of a series under the same auspices toward a complete study of the flora of northern South America. It is directed by Dr. Francis W. Pennell.

CUBA.

SIXTH LATIN AMERICAN MEDICAL CONGRESS.—According to the plans made in the Fifth Latin American Medical Congress held in Lima in 1913, the Sixth Congress is to be held in Habana, November 19–26, 1922. The President of the Republic has asked Congress for an appropriation of \$35,000 for expenses related to the congress. The Department of State has forwarded invitations to the various Latin American countries and to scientific institutions in Cuba. The BULLETIN is indebted to the secretary, Dr. Francisco María Fernández, for news of this important scientific meeting.

FRENCH MONUMENT IN PANAMA.—The Government has contributed \$500 as Cuba's quota for the monument which is to be erected in Panama to the French who lost their lives in the attempt to build the canal under De Lesseps.

ECUADOR.

NEW LEGATION.—With the presentation in March of credentials by Señor Don Albino Pugnalia, accredited to Quito as Minister of Argentina, that country established a legation in Ecuador.

GEOGRAPHIC SOCIETY.—The Geographic Society of Quito was recently founded at a meeting held in the University, with Señor don Cristobal de Gangotena Jijón as president.

HAITI.

HAITIAN POETRY.—Under the auspices of L'Essai, a Parisian newspaper, M. Louis Morpeau early this year delivered a lecture on Haitian poetry in the French capital.

MEXICO.

GIFT STATUE TO BRAZIL.—As a gift on the Centenary of Brazil's independence Mexico will present to that country a statue of the Aztec hero, Cuauhtemoc, which will be placed in one of the principal plazas of Rio de Janeiro.

VISITING AMERICAN SURGEONS.—A number of noted American surgeons, headed by Dr. William Mayo, have lately been visiting hospitals, clinics, and other medical institutions throughout a large portion of the country. They have met everywhere with a warm welcome on the part of their southern colleagues and every courtesy has been extended to them by public officials, President Obregón taking a special interest in their mission. Dr. Mayo, in representation of the American College of Surgeons, invited the Mexican medical profession to send delegates to the Medical Convention which will be held in the United States in October.

PANAMA.

TRIBUTE TO GORGAS.—At the memorial services for Brigadier General Gorgas held in Birmingham, Alabama, March 3, the diplomatic representative of Panama in the United States, the Hon. J. E. Leffevre, paid tribute to the great sanitarian in an eloquent address. He said that Panama was engaged in a constant effort to render homage to the man who had made the canal possible by freeing the Republic from yellow fever, and that, like the Cid, after death he still led his forces to victory. The British ambassador to the United States also made an address, praising the achievements of General Gorgas.

PERU.

PERUVIAN DELEGATES.—The Peruvian delegates to the Chilean-Peruvian conference are Dr. Melitón F. Porras, ex-minister of foreign affairs, and Dr. Hernán Velarde, Minister of Perú in Argentina. Dr. Solón Polo, technical adviser of the Department of Foreign Affairs, is counsellor of the delegation.

HALL OF FAME.—The portrait of Señor Alberto Ulloa, a distinguished journalist, highly respected for his civic virtues, has been added to the National Gallery of portraits of notable Peruvians in the Lima library, making 42 men thus honored, among whom are Prescott and Markham. A special act of Congress is necessary for this distinction.

URUGUAY.

SIR ERNEST SHACKLETON.—The death, on January 5, 1922, of Sir Ernest Shackleton, the famous British explorer, caused a profound impression all over the world and was felt with especial keenness in Uruguay. It was there that his body was brought before the news of his passing had reached any country. At the time of the funeral service the Uruguayan nation rendered the military honors of a minister to Sir Ernest Shackleton, and the official representatives and members of the British colony, the mourners in the funeral cortège, were joined by throngs of sympathetic Uruguayans. The generosity and many courtesies of the Uruguayan Government were deeply appreciated, although it was thought best to decline the offer of a warship to bear the explorer's body to its last resting place in South Georgia. The President in his message to Congress, and the Minister of Foreign Relations at the funeral service, highly eulogized Sir Ernest's character and work.

IMMIGRATION.—The Immigrant Lodging Bureau has given out the following figures for immigration: 1920, 3,148; 1921, 2,413. Spaniards came in the largest number: 1,422 in 1920 and 1,055 in 1921.

SUBJECT MATTER OF CONSULAR REPORTS

REPORTS RECEIVED TO MARCH 20, 1922.

Subject.	Date.	Author.
ARGENTINA.		
Educational courses in Argentine schools.....	1922. Jan. 11	W. Henry Robertson, consul general at Buenos Aires.
Argentine foreign trade, first 9 months of 1920.....	Jan. 17	Do.
Bids for rails and accessories for State railways.....	...do....	Do.
Report upon the operation of the new rent law.....	Jan. 18	Do.
Aerial Transport services between Buenos aires and Montevideo.	Jan. 19	Do.
Opening of Aerial School at San Isidro.....	Jan. 20	Do.
Project of Argentine Labor Code.....	Feb. 2	Do.
Annual report on commerce and resources of northern Argentina for calendar year 1921.	Feb. 3	Wilbert L. Bonney, consu at Rosario.
Argentine railway tariff increases.....	Feb. 4	W. Henry Robertson.
Argentine meat in the United Kingdom.....	...do....	Do.
Public control of privately owned forest lands.....	...do....	Do.
Presidential message regarding extension of time for payment of Agrarian loan.	...do....	Do.
Condition of Buenos Aires banks at the end of Dec. 31, 1921.....	...do....	Do.
Decrease in sales of agricultural machinery.....	Feb. 8	Do.
Cereal prices, week ending Feb. 2, 1922.....	...do....	Do.
Proposed tax upon steamship passenger fares.....	Feb. 13	Do.
Executive message to Congress regarding rural rentals.....	Feb. 14	Do.
Constitutionality of rental law covering residential and business premises.	...do....	Do.
BRAZIL.		
Coal imports during first 9 months of 1921.....	Jan. 6	C. R. Cameron, consul at Pernambuco.
Alcohol as automobile fuel in Pernambuco.....	Jan. 11	Do.
Report on shipping conditions at port of Pernambuco.....	Jan. 14	Do.
Bahia tobacco industry.....	Jan. 17	Thos. H. Bevan, consul at Bahia.
Report of the municipality and port of Santos, with especial reference to temperature and rainfall.	Jan. 20	Herndon W. Goforth, vice consul at Santos.
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